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Lewis, N. H., Benkleman.
Premer, J. F., Benkleman.
Stewart, W. E., Stratton.

CHEYENNE-KIMBALL

Abbott, Dee L., Sidney.
Miller, A. L., Kimball.
Harris, S. O., Chappell.
Larsen, A. A., Gurley.
Mockett, P. C., Kimball.
Pankau, J. B., Dalton.
Roche, R. E., Sidney.
Sloan, W. T., Potter.
Sucgang, F. P., Bushnell.
Taylor, J. R., Sidney.

CLAY

Asa, O. C., Ong.
Bell, J. R., Fairfield.
Harvey, E. A., Fairfield.
Kenner, W. C., Glenvil.
Keith, C. W., Edgar.
Latta, J. O., Clay Center.
Nuss, H. V., Sutton.
Nutzman, Chas. L., Harvard.
Seely, H. H., Harvard.
Stone, J. G., Sutton.
Thomas, W. M., Edgar.
Welch, J. M., Sutton.

COLFAX

Eby, Chas. D., Leigh.
Kavan, W. J., Clarkson.
Kolouch, Fred G., Schuyler.
Koory, S. B., Schuyler.
McGowan, P. H., Schuyler.
Novak, F. W., Howells.
Sixta, L. H., Schuyler.
Vosika, Fred G., Clarkson.

CUMING

Anderson, Albert W., West Point.
Francis, H. W., Bancroft.
Heacock, Frank M., Lyons.
Kiefer, J. J., West Point.
Morse, Marie H., Wisner.
Pierson, C. A., Beemer.
Riley, L., Wisner.
Robbins, M. H., West Point.
Thompson, I. L., West Point.

CUSTER

Amick, Carl G., Loup City.
Bryson, R. D., Callaway.
Burnham, F. A., Arnold.
Downing, A. R., Merna.
Forney, L. W., Mason City.
Higgins, R. P., Ansley.
Hille, R. W., Arcadia.
Johnson, Henrietta, Broken Bow.
Kantor, D. B., Sargent.
Koefoot, Theo. H., Broken Bow.
Morrow, J. H., Merna.
Mullins, C. L., Broken Bow.
Pennington, G. E., Broken Bow.
Rydberg, C. A., Litchfield.
Spivey, C. D., Anselmo.
Wanek, A. E., Loup City.

DAWSON

Anderson, Arthur, Lexington.
Birkofer, W. J., Gothenburg.
Dorwart, T. Y., Lexington.
Fochtman, L. H., Cozad.
Harvey, H. M., Gothenburg.
Kile, I. B., Eddyville.
Liggitt, John M., Farnam.
Pyle, B. W., Gothenburg.
Reeves, Alfred E., Farnam.
Rosenau, Oliver P., Eustis.
Sheets, Chas. H., Cozad.
Wycoff, Roy S., Lexington.

DODGE

Block, D. M., Arlington.
Buchanan. A. E., Fremont.
Byers, Geo. A., Scribner.
Byers, R. C., Fremont.
Davies, R. A., Arlington.
Devries, J. S., Fremont.
Fasser, A. O., Fremont.
Harvey, Andrew, Fremont.
Haslam, Geo. A., Fremont.
Hauser, B. B., Hooper.
Heine, C. D., Hooper.
Heine, W. H., Fremont.
Hoff, A. E., North Bend.
Hustead, E. L., Scribner.
Kenney, B. V., Dodge.
Limburg, J. I., Fremont.
Metzinger, J. J., Fremont.
Meyers, H. D., Howelis.
Moore, C. G., Fremont.
Morrow, H. N., Fremont.
Pedersen, H. C., Fremont.
Reeder, Grant, Fremont.
Seivers, C. P., Fremont.
Seward, Guy, Fremont.
Stuart, A. E., Cedar Bluffs.
VanMetre, R. T., Fremont.
Wallien. S. P., Snyder.

FILLMORE

Ashby, A. A., Fairmont.
Bixby, J., Geneva.
Hickman, J. C., Geneva.
Musfelt, W. Stanley, Ohiowa.
O'Brien, E. J., Exeter.
Smrha, V. V., Milligan.
Stansberry, Don C., Geneva.
Wiggins, Carroll W., Shickley.
Wiggins, W. S., Exeter.

FRANKLIN

Campbell, R. B., Franklin.
Chapman, Amy (Robinson), Franklin
Devers, W. I., Upland.
Dugan. W. F., Campbell.
Nail, F. E., Riverton.
Neville, Dessis, Hildreth.
Packwood, W. E., Riverton.
Smith, Hal C., Franklin.
Sparks, M. L., Bloomington.

FURNAS

Green, Ralph D., Beever City.
*Kee, A. L., Cambridge.
Leeper, D. D., Holbrook.
Miller, W. C., Arapahoe.
Minnick, Clarence E., Cambridge.
Murphy, H. R., Wilsonville.
Shank, F. W., Oxford.
Smith, Don L., Wilsonville.
Warner, Sophia E., Arapahoe.

GAGE

Bovenmyer, D. O., Beatrice.
Bradley, C. A., Beatrice.
Brown, H. T., Beatrice.
Buckley, F. W., Beatrice.
Burford, J. A., Beatrice.
Elias, Francis, Wymore.
Fall, C. P., Beatrice.
Gafford, C. C., Wymore.
Hepperlen, H. M., Jr., Beatrice.
Hepperlen, H. M., Beatrice.
Lee, A., Pickrel.
Leibee, J. R., Beatrice.
McGirr, J. I., Beatrice.
Miller, W. R., Liberty.
Noble, R. C., Beatrice.
Penner, H. G., Beatrice.
Penner, L. E., Beatrice.
Pickett, I. N., Odell.
Rice, C. E., Odell.
Roe, G. L., Beatrice.
Rush, W. A., Beatrice.
Schowengerdt, F. T., Cortland.
Shofstoll, Chas. R., Beatrice.
Skinner, A. O., Beatrice.
Swartwood, F. M., Adams.
Thomas, Chas. W., Wymore.
Tucker, James C., Beatrice.
Waddell, J. C., Beatrice.
Waggoner, J. T., Adams.
Walden, C. W., Beatrice.
Warner, E. A., Blue Springs.
Wildhaber, W. T., Beatrice.

HALL

Arrasmith, W. J., Grand Island.
Arrasmith, W. W., Grand Island.
Condon, F. J., St. Paul.
DeMay, Geo. H., Grand Island.
Dodd, E., Cairo.
Edstrom, A. J., Grand Island.
Farnsworth, E. E., Grand Island.
Gelow, J. E., Grand Island.
Higgins, J. E., Grand Island.
Hombach, Wm. H., Grand Island.
Hubbell, A. T., Wood River.
Johnson, A. J., Grand Island.
Johnson, E. G., Grand Island.
McGrath, B. R., Grand Island.
McGrath, W. D., Grand Island.
Phelan, L., Grand Island.
Piersol, M. R., Cairo.
Reilly, John V., Grand Island.
Roeder, Geo., Sacramento, Calif.
Riggs, James Paul, Grand Island.
Ryder, Frank D., Grand Island.
Sawyer, R. E., Doniphan.
Synhorst, A. P., Grand Island.
Tripplett, T. M., Grand Island.
Watson, E. A., Grand Island.
Wengert, Henry C., Grand Island.
Woodin, I. G., Grand Island.
Woodruff, R. C., Grand Island.

HAMILTON

Hustead, C. D., Aurora.
Kostal, A. A., Giltner.
Steenberg, Donald B., Aurora.
Steenberg, E. A., Aurora.
Steenberg, E. K., Aurora.
Troester, Otto M., Hampton.
Weaver, Ralph L., Marquette.
Woodard, J. M., Aurora.

HARLAN

Bartlett, W. C., Alma.
Campbell, J. N., Stamford.
Gardner, A. J., Orleans.
Kerr, Robert H., Alma.
Rundle, W. G., Orleans.
Talcott, V. V., Republican City.

HOLT & N. W.

Bradley, E. B., Spencer.
Beatty, J. R., Butte.
Brown, J. P., O'Neill.
Carrig, M. H., Stuart.
Carter, L. A., O'Neill.
Compton, Arthur N., Valentine.
Douglas, W. J., Atkinson.
Dwyer, E. H., Gordon.
Finley, W. F., O'Neill.
French, O. W., Page.
Gill, James W., Chambers.
Ira, Guy B., Lynch.
Johnson, Chester, Valentine.
Kriz, R. E., Lynch.

Lawson, Thos. J., Ainsworth.
Lear, W. D., Springview.
McKee, Neil P., Atkinson.
Oxford, Edwin J., Chambers.
Prescott, Kenneth C., Long Pine.
Rasck, Alfred G., Ainsworth.
Remy, G. O., Ainsworth.
Rolph, E. L., Kimball.
Sturdevant, C. L., Atkinson.
Thomson, John L., Syracuse.
Vennemann, Frederick W., Spencer.
Wilson, F. L., Stuart.
*Zimmermann, C. F., Naper.

HOWARD

Arnold, Merton O., St. Paul.
Hanisch, E. C., St. Paul.
Holm, A. H., Wolbach.
Hynes, W. P., Greeley.
Pedersen, P. M., Dannebrog.
Sturges, C. J., St. Paul.
Wengert, D. B., St. Paul.

JEFFERSON

Ainley, George W., Fairbury.
DuVall, Geo. R., Fairbury.
Heath, G. A., Fairbury.
Hughes. D. O., Fairbury.
Humphrey, H. H., Daykin.
Lynch, G. M., Fairbury..
Lynch, J. Harold, Fairbury.
Potter, H. E., Fairbury.
Taylor, J. S., Fairbury.

JOHNSON

Barnes, Chester D., Tecumseh.
Conlee, C. C., Cook.
Curtis, J. M., Tecumseh.
Douglas, U. D., Crab Orchard.
Fitzsimmons, A. P., Tecumseh.
Heilman, W. L., Sterling.
Howard, Sullivan, Elk Creek.
McAleer, E. C., Tecumseh.
Martin, L. P., Cook.
Morrill, Walter LeRoy, Sterling.
Rubleman, Geo. J., Tecumseh.
Turner, J. W., Sterling.
Zeigler, Chas. H., Vesta.

LANCASTER

Adams, R. B., Lincoln.
Albin, W. L., Lincoln.
Andrews, C. F., Lincoln.
Andrus, F. M., Lincoln.
Angle, E. E., Lincoln.
Angle, E. J., Lincoln.
Arnholt, M. F., Lincoln.
Arnold, C. H., Lincoln.
Bailey, B. F., Lincoln.
Bartholomew, P. H., Lincoln.
Becker, Wesley C., Lincoln.
Black, Paul, Lincoln.
Bowman, D. J., Lincoln.
Breuer, C. H., Lincoln.
Breuer, M. J., Lincoln.
Brooks, E. B., Lincoln.
Campbell, W. Allen, Lincoln.
Carveth, Walter W., Lincoln.
Churchill, I. W., Lincoln.
Colburn, W. O., Lincoln.
Coleman, F. D., Lincoln.
Cook, S. E., Lincoln.
Covey, Geo. W., Lincoln.
Crook, Roy, Lincoln.
Cummings, E. D., Lincoln.
Curtis, W. L., Lincoln.
Deppen, E. N., Lincoln.
Easton, R. H., Lincoln.
Eiche, Frederick, Lincoln.
Elliott, W. M., Lincoln.
Emerson, C., Lincoln.
Everett, Ernest, Lincoln.
Everett, H. H., Lincoln.
Everett, O. W., Lincoln.
Fahnestock, C. L., Lincoln.
Finkle, B. A., Lincoln.
Flanagan, May L., Lincoln.
Flansburg, H. E., Lincoln.
Frey, C. Elmer, Lincoln.
Furgason, A. P., Lincoln.
Gibson, L. V., Lincoln.
Graham, A. Winifred, Lincoln.
Graham, F. A., Lincoln.
Griffiths, D. G., Lincoln.
Hancock, E. W., Lincoln.
Hansen, E. H., Lincoln.
Harms, Chas. W. W., Lincoln.
Harvey, H. E., Lincoln.
Hickman, C. C., Lincoln.
Hilton, D. C., Lincoln.
Hohlen, K. S. J., Lincoln.
Hollenbeck, F. B., Lincoln.
Hompes, J. J., Lincoln.
Hummel, R. O., Lincoln.
Johnson, C. C., Lincoln.
Johnson, F. B., Lincoln.
Katskee, E. K., Lincoln.
Knight, L. C., Lincoln.
Lehnhoff, H. F., Lincoln.
Lewis, George, Lincoln.
Loomis, J. J., Lincoln.
Lovell, A. I., Lincoln.
Lyman, R. A., Lyman.
Magruder, C. L., Lincoln.
McCarthy, T. F., Lincoln.
McKinnon, A. I., Lincoln.
Merideth, John A., Lincoln.
Misko, George, Lincoln.
Mitchell, A. R., Lincoln.
Morgan, Harold S., Lincoln.
Moyer, T. C., Lincoln.
Mueller, H. B., Lincoln.
Munger, Arbor D., Lincoln.
Munger, I. C., Lincoln.
Munger, I. C., Jr., Lincoln.
Neeley, J. M., Lincoln.
Orr, H. W., Lincoln.
Olney, R. C., Lincoln.
Owen, L. J., Lincoln.
Peterson, John, Lincoln.
Podlesak, James J., Lincoln.
Ramey, W. N., Lincoln.
Reed, E. B., Lincoln.
Reese, S. O., Lincoln.
Reinhardt, O. A., Lincoln.
Reynolds, R. W., Lincoln.
Rider, E. E., Lincoln.
Rogers, F. L., Lincoln.
Rowe, E. W., Lincoln.
Royal, Paul, Lincoln.
Ryerson, F. R., Lincoln.
Sanderson, D. D., Lincoln.
Smith, A. L., Lincoln.
Smith, R. L., Lincoln.
Snipes, J. J., Lincoln.
Speier, Aaron S., Lincoln.
Stapleton, Harvey B., Lincoln.
Taylor, H. A., Lincoln.
Taylor, J. D., Lincoln.
Teal, F. F., Lincoln.
Thomas, I. W., Lincoln.
Thompson, J. C., Lincoln.
Thomson, J. E. M., Lincoln.
*Waite, H. H., Lincoln.
Walker, G. H., Lincoln.
Warner, Ruth, Lincoln.
Webb, Adin H., Lincoln.
Wegner, E. S., Lincoln.
Welch, J. S., Lincoln.
Whitham, Roy H., Lincoln.
Wiedman, Earl V., Lincoln.
Williams, B. F., Lincoln.
Williams, J. P., Lincoln.
Wilson, W. H., Lincoln.
Wright, Frank T., Lincoln.
Woodward, J. M., Lincoln.
Zemer, S. G., Lincoln.
Zimmerer, Edmond G., Lincoln.

LINCOLN

Anderson, Joel, North Platte.
Bell, F. M., Grant.
Clark, Harvey, North Platte.
Dent, Geo. B., North Platte.
Dent, Townsend, North Platte.
Fetter, Earl W., North Platte.
Heider, Chas. F., North Platte.
Kennon, C. E., Maxwell.
Kerr, T. J., North Platte.
McCartan, E. L., Ogallala.
McDonald, Hugh, North Platte.
McGraw, H. G., Tryon.
Morris, Geo. H., Oshkosh.
Newman, J. C., Wallace.
Platt, O. R., North Platte.
Ostling, Evert H., Lewellen.
Redfield, J. B., North Platte.
Russell, R. S.. Sutherland.
Sadler, W. W., Hershey.
Schneider, A. L., Brady.
Selby, Claude A., North Platte.
Smith, Clinton H., Franklin.
Stevenson. Edward, North Platte.
Walker, H. H., North Platte.
Walker, D. A., Mullen.
Wilmeth, O. F., Hershey.
Vandiver, H. A., Ogallala.
Weyer, S. M., Ogallala.
Wurtele, Fred J., North Platte.

MADISON-STANTON-PIERCE-ANTELOPE-KNOX

Allen, S. G., Stanton.
Allerton, Perry, Tilden.
Barr, C. C., Tilden.
Barry, Augustus, Norfolk.
Bennie, J. W., Clearwater.
Benthack, Walter, Wayne.
Bild, Elmer J., Wausa.
Brauer, S. H., Norfolk.
Bruce, J. J., Madison.
Brush, E. L.. Norfolk.
Burrell, R. H., Creighton.
Calvert, John H., Pierce.
Campbell, S. A., Norfolk.
Charlton, G. E., Ingleside.
Clark, W. K., Valentine.
Craft, W. T., Brunswick.
Curtis, E. E., Neligh.
Drummond, C. C., Norfolk.
Farner, B. F., Norfolk.
Fletcher, D. L., Orchard.
Fletcher, T. W., Orchard.
Frary, R. A., Stanton.
Frink, Frank L., Newman Grove.
Gadbois, Arthur E., Norfolk.
Graham, W. W., Elgin.
Green, Carl, Niobrara.
Hansen, Geo. M., Madison.
Harrison, U. S., Neligh.
Hoefer. C. A., Wisner.
Hopper, O. C., Stanton.
Howley, A. N., Norfolk.
Jensen, Frank, Newman Grove.
Jensen, J. P., Plainview.
Johnson, L. A., Plainview.
Johnson, Rudolph, Wausa.
Kindred, H. L., Meadow Grove.
Lemar, F. A., Columbus.
Lonergan, P. B., Wisner.
Long, F. A., Madison.
MacNamara, R. B., Crofton.
McClelland, E. E., Jr., Elgin.
Maillard, A. E., Osmond.
Melerian, H., Plainview.
Morris, H. G., Newman Grove.
Mullong. Chas. Robt., Norfolk.
Nelson, Lloyd L., Norfolk.
Nielsen, J. C., Norfolk.
Nilsson, G. N., Bloomfield.
Nye, F. H., Plainview.
Palmateer, H. T., Madison.
Pollock, F. A., Norfolk.
Reid, John, Pilger.
Rodgers, C. E., Osmond.
Rudloff, F. X.. Battle Creek.
Sayre, C. Edward, Norfolk.
Salter, P. H., Norfolk.
Schlumberger, P. R., Oakdale.
Schwedehelm, A. J., Creighton.
Sidwell, Doris M., Santee.
Stark, Lucien, Norfolk.
Swift, C. H., Crofton.
Tanner, Edward, Battle Creek.
Tennant, H. S., Stanton.
Verges, C. J., Norfolk.
Winkle, V. M., Norfolk.
Young, G. A., Norfolk.

MERRICK

Benton, Joseph E., Central City.
Fouts, Fredrick, Central City.
Hutchison, J. W., Central City.
Racines, J. Y., Palmer.

NANCE

Cleary, J. A., Fullerton.
Davis, Homer, Genoa.
Johnson, F. W., Fullerton.
King, H. E., Fullerton.
Kirkpatrick, M. E., Fullerton.
Newton, R. A., Genoa.
Williams, C. D., Genoa.

NEMAHA

Cline, Edgar, Auburn.
Graham, A. C., Nemaha.
Irvin, I. W., Auburn.
Lorance, B. F., Auburn.
Lutgen, C. A., Auburn.
Ramsey, A. J., Auburn.
Smith, B. A., Auburn.
Tyler, E. M., Auburn.
Vance, V. V., Peru.
Wilson, J. S., Johnson.

NORTHWEST NEBR.

Baldwin, Earle, Chadron.
Baldwin, Francis J., Chadron.
Broz, J. S., Rushville.
Courshon, A. J., Chadron.
Golden, E. P., Chadron.
Griot, A. J., Chadron.
Griot, Geo. A., Chadron.
Ivins, R. L., Crawford.
McDowell, M. D., Chadron.
Pierce, C. M., Chadron.

Richards, B. F., Crawford.
VanderKamp, Harry, Chadron.

NUCKOLLS

Dierker, Joseph B., Lawrence.
McMahon, Chas. G., Superior.
Mitchell, W. F., Superior.
Moore, Robert H., Nelson.
Nelson, W. H., Ruskin.
Nelson, William N., Hardy.
Trowbridge, J. A., Superior.

OMAHA-DOUGLAS

Adams, W. J., Omaha.
Allen, J. F., Omaha.
Alexander, J. S., Omaha.
Allingham, H. T., Omaha.
Anderson, Harley E., Omaha.
Anderson, James C., Council Bluff, Ia.
Anderson, M. C., Omaha.
Avery, H. H., Omaha.
Banister, E. B., Omaha.
Bantin, Clarence F., Omaha.
Bantin, Elmer W., Omaha.
Barnhardt, E. G., Omaha.
Barnes, E. M., Omaha.
Baptist, Jno., Omaha.
Barry, M. William, Omaha.
Beck, Fred O., Omaha.
Bean, Francis J., Omaha.
Bennett, A. E., Omaha.
Best, R. Russell, Omaha.
Betz, Wm. H., Omaha.
Bleick, L. C., Omaha.
Bliss, Rodney W., Omaha.
Boler, Thos. D., Omaha.
Borghoff, J. A., Omaha.
Bowles, Loetta, Omaha.
Brandt, Emelia, Omaha.
Bridges, E. L., Omaha.
Bridges, Wilson O., Omaha.
Brown, Alfred J., Omaha.
Brown, Chas. P., Omaha.
Burns, B. C., Omaha.
Bushman, Louis B., Omaha.
Callfas, Wm. F., Omaha.
Campbell, Phil T., Omaha.
Carnazzo, S. J., Omaha.
Cassidy, W. A., Omaha.
Catania, Nancy, Omaha.
Christie, Burton W., Omaha.
Clark, Chas. F., Omaha.
Clark, Geo. L., Omaha.
Clarke, F. S., Omaha.
Cloyd, A. David, Omaha.
Cloyd, Augustus D., Omaha.
Connolly, E. A., Omaha.
Condon, Albert P., Omaha.
Conlin, Frank M., Omaha.
Cook, L. J., Omaha.
Cross, Clara, Omaha.
Cuscaden, Gertrude, Omaha.
Davis, Byron B., Omaha.
Davis, Edwin G., Omaha.
Davis, Herbert H., Omaha.
Davis, Jno. C., Jr., Omaha.
Davis, Wm. M., Omaha.
Davis, Wm. Windle, Omaha.
DeLanney, L. A., Omaha.
DeStefano, Carmelo, Omaha.
Dishong, G. W., Omaha.
Dodge, Roy A., Omaha.
Dow, Andrew G., Omaha.
Duffy, James J., Omaha.
Duncan, J. W., Omaha.
Dunn, Arthur D., Omaha.
Dunn, F. Lowell, Omaha.
Dwyer, J. R., Omaha.
Edgington, Avington A., Omaha.
Egan, William J., Omaha.
Eldredge, R. B., Omaha.
Emmert, Max, Omaha.
Erman, Jacob M., Omaha.
Evans, Edward B., Omaha.
Everett, R. A., Kimball.
Ewing, Ben H., Omaha.
Fairchild, Nora M., Omaha.
Farrell, Robert F., Omaha.
Findley, Palmer, Omaha.
Fitzgibbons, Henry M., Omaha.
Foltz, C. B., Omaha.
Fouts, R. W., Omaha.
Frandsen, Chas., Omaha.
Freymann, J. J., Omaha.
Gardner, J. F., Omaha.
Gates, Kenneth, Omaha.
Gentry, William J., Omaha.
Gerald, H. F., Omaha.
Gilbert, G. R., Omaha.
Gilmore, Robert, Omaha.
Gleeson, John J., Omaha.
Greenberg, Abraham, Omaha.
Greenberg, Ben, Omaha.
Grier, M. E., Omaha.
Grodinsky, Manuel, Omaha.
Gurney, Charles T., Omaha.
Gwinn, Allen Clay, Jr., Omaha.
Hall, B. W., Omaha.
Hall, Lynn T., Omaha.
Hamilton, Herschel P., Omaha.
Hamilton, Howard B., Omaha.
Hamsa, W. R., Omaha.
Haney, W. P., Omaha.
Hanisch, L. E., Omaha.
Hardy, C. C., Omaha.
Harris, T. T., Omaha.
Haslam, Thos. P., Omaha.
Heagey, Francis W., Omaha.
Hellwig, John W., Omaha.
Henry, Edwin C., Omaha.
Henske, Jos. A., Omaha.
Heumann, J. M. F., Omaha.
Hickey, C. W., Bennington.
Hirschman, Herman, Omaha.
Hoffman, L. O., Omaha.
Hollenback, Carl F., Omaha.
Hollister, Robert R., Omaha.
Holovtchiner, E., Omaha.
Holst, John, Omaha.
Hotz, Harley, Omaha.
Houlton, Thos. L., Omaha.
Howard, M. C., Omaha.
Hunt, Howard B., Omaha.
Hunt, Katherine M., Omaha.
Hull, Chas. A., Omaha.
Hurdum, Herman M., Omaha.
Hyde, John F., Omaha.
Impey, Chester C., Omaha.
Iwerson, J. C., Omaha.
Jahr, Herman M., Omaha.
James, C. S., Omaha.
Jefferson, Alfred, Omaha.
Jenkins, Harry J., Omaha.
Johnson, A. C., Omaha.
Johnson, Aldis A., Council Bluffs, Ia.
Johnson, H. F., Omaha.
Johnson, Julius A., Omaha.
Judd, J. H., Omaha.
Jonas, August F., Omaha.
Kadavy, G. J., Omaha.
Kani, Mantz A., Omaha.
Katsuki, S. S., Omaha.
Keegan, John Jay, Omaha.
Kelley, Ernest, Omaha.
Kelley, James F., Omaha.
Kennedy, Chas. R., Omaha.
Kinyoun, F. H., Omaha.
Kirk, E. J., Omaha.
Kleyla, Jno. R., Omaha.
Knode, Archibald R., Omaha.
Kodama, George H., Omaha.
Koenig, Margaret W., Waterloo.
Korol, Ephriam, Omaha.
Korth, Z. N., Omaha.
Koutsky, James W., Omaha.
Koutsky, John W., Omaha.
Kully, B. M., Omaha.
Landgraf, E. W., Omaha.
Langdon, J. Fred, Omaha.
Lennox, Geo. B., Omaha.
Levey, Philip, Omaha.
Levine, Victor, Omaha.
Lindquist, A. B., Omaha.
Lord, John P., Omaha.
Lovelady, Ralph, Sidney, Iowa.
Lovely, Frank I., Omaha.
Lucke, R. S., Omaha.
Lucke, Richard, Omaha.
Luikart, Ralph H., Omaha.
Lukovsky, Jos. F., Omaha.
McArthur, H. J., Omaha.
McCarthy, Joseph D., Omaha.
McCleneghen, Sam, Omaha.
*McDairmid, Stuart B., Omaha.
McDermott, B. A., Omaha.
McEachen, Esther T., Omaha.
McGee, Harry E., Omaha.
McGee, J. W., Omaha.
McGoogan, Leon S., Omaha.
McGuire, L. D., Omaha.
McKean, J. W., China.
McMartin, Chas., Omaha.
McNamara, J. W., Omaha.
MacQuiddy, E. L., Omaha.
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*Deceased.

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A COUNTRY DOCTOR LOOKS AT FEMALE COMPLAINTS*

ARTHUR E. HERTZLER, M. D.,
Halstead, Kansas.

Gentlemen: When a party goes barnstorming, ie is supposed to say he is glad to be here. I im not altogether glad. I feel sorry for you ust as I do for myself.

My chief function in life has become to proect the patients from specialists. My job at iome is to see everybody, and then I dole them ut to my various specialists, and see they don't lo anything they should not do. I have chosen his subject—"A Country Doctor Looks at Female Complaints"—today, because a lot of the omplaining females are operated on who should not be. In discussing this topic, I shall divide my subject into three general divisions.

In the first place, I will put the girl with dysmenorrhea, or whatever else she may think is wrong with her. Then we will take the middle-aged woman who is suffering from something else, chiefly because she is a middle-aged female. Then the woman approaching the menopause who is apt to fall a prey to the professional gynecologist and the radiologist.

It is extremely interesting to see the change that has come over female complaints during the period I have been in practice—thirty-six years. When I began practice with a horse and road cart, when women complained, they had something. They had eight to twelve children and were part of the domestic machinery. They produced something besides children, too, all the way from soft soap, rag carpets, to mince pies. Everybody, including the children, was engaged in the gentle art of trying to make a living. When they complained they were physically sick, even including the daughters. I am astounded and confused at the change that has come over us, and I do not know what it all means. Now a goodly share of the complaining has to do with the social readjustment: to much leisure for introspection and self pity.

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*Talk given before annual meeting Nebraska State Medical Association, incoln, May 13-15, 1930.

To begin with the young dysmenorrhoeic: The young dysmenorrhoeic too often has had her "chronic appendix" removed and something done with one of the ovaries. I have seen them by the trainloads, until I am willing to fight my grandmother! Those things used to be perfectly amenable to treatment by us country doctors when we got hold of her first. The treatment I shall advocate you will find in such recent books as Hartshorne's Practice of Medicine. My edition is about 85 years old. We now know they are polyglandular disturbances. Dr. Hartshorne does not say anything about that. We just added it, and while advancing in theory we have forgotten his treatment. It doesn't mean anything more than he knew. They have small goiters and when they disappear, likewise does the dysmenorrhea. He gave potassium iodide.

The treatment he used and I use is potassium iodide. The old doctors all knew it would relieve dysmenorrhea in young girls. That is true yet: it will cure all cases except those complicated by other things, particularly malformation of the pelvic organs. Naturally they are not amenable to treatment. The use of potassium iodide for dysmenorrhea is one of the most valuable contributions ever written in medical books. Yet it has been forgotten except by a few old Papas.

The second class of cases I wish to discuss may include the matron of all shapes and sizes. The first and one of the most striking types is the young woman of twenty-one who has had two or three children. She married just as soon as she discovered her legs. As far as I can see, those patients just simply suffer from over-advertising. They run around with their little legs bare, and marry at fifteen, and proceed to have a child or two and then they have exhausted all their strength. Along with this picture comes socially satiated husband, aged twenty-one. He has seen all there is in life. I wonder sometimes if Edmund Burke could have written that wonderfully classical tribute to the Dauphiness of Versailles if he had seen her legs?

Yet the present situation is not all gloom. I do not understand the girl situation of today. It challenges us old grandpas because we do not know what to make of it. It has so many sides. I have on my staff one of the keenest medical minds—a woman physician. What she finds out would stagger a "bird" as old as I am. Here is one interesting thing. These women are ready to tell us the facts if we have the nerve to let them. They are solving their problems in a way. They are just as free to talk about pelvic disturbances as sore throats. It is a wonderful thing. It gives us a wonderful chance. They have their own problems, and we would be able to solve them if we were not quite so scared.

There is one interesting thing, that in spite of the present tendency there are fewer illegitimate pregnancies and fewer cases of gonorrhea than in times past. These girls are not so dumb. They are solving their problems but I do not know just how. They have discovered that they are little animals and not angels as the poetry books picture them. I admire them for their courage because we are face to face with some real problems, and these girls are trying to solve them. So much for the girl.

Now, the matrons are a bunch who will plain "knock you cold". They complain of divers and sundry things, either pelvic or their stomachs. The first thing you must diagnose is the family relationship. When you have been out the night before trying to corral the fourth elusive ace and Friend Wife says to you at breakfast, "Did you have a good time, dear?" You do not ask, "Are you nervous, dear?" You know mighty well she is. So don't ask your patient if she is nervous. Look at her and see.

One clue has helped me out wonderfully in analyzing the complaining matron. If Friend Husband is along, look out of the corner of your eye and see if he sits with his legs crossed. If he does, he is in pretty good standing at home, and the patient may have organic disease. But if he sits with both feet flat on the floor, he is in bad and the patient's complaints are likely social. That is the position for a quick get-away and Friend Husband unconsciously assumes it. That is no joke. You just watch. It works out.

Then the question is, "Where is the trouble?" You look at the history a little and see: "Johnny, 12; Mary, 10; Billy, 8. Period." Now you know what the trouble is. What will you do about it? They will tell my lady assistant all about it. You just don't know what to do about it. In the present state of civil and religious opinion you just can't do much. It is just too bad. If they have backaches and pain down their legs and a little laceration, you will not operate, if you have good sense, because it won't do any good. You cannot settle their domestic situation by surgical procedure so don't try it. That is why surgery gets in bad; trying to solve a social situation by means of a dinky little operation.

Now, there is another type even more troublesome. They come alone. No hubby is to be seen anywhere. He has made his get-away. Some are deserters and some are refugees. You have to figure out which he is. If he has deserted, you can do her some good with sedatives. If he is a refugee, you cannot do anything. The thing to do with them is to send her to a neurologist.

Another type suffers from too much mamma. Friend Husband is not along but Mamma is. That is one of the most prolific sources of female complaint. Mamma has had all the symptoms and the daughter unconsciously imitates her. There you must diagnose the mother. In those cases where there is a strong nervous element and even if there is pathology, the operation must be avoided if possible because the result will be *nil.*

The big problem just now, which the woman knows better than we—if we had liberty and nerve we could solve it—is the question of race limitation. That is before us. I notice in the Literary Digest the proponents are sort of edging in. They say under certain circumstances it is all right. That is no joke: under certain circumstances it is. Unless we adopt some sort of race limitation, we must build more battleships, because we must get rid of the excess population and we just naturally will have to kill them off. We are the "birds" who got civilization in this situation. When infectious diseases ran rampant, Nature took care of the excess. They died off. We "horned in" and saved these people. The pediatricians are the chief offenders now because they are saving the babies. The difference in child feeding, in my experience, is one of the most noteworthy things in modern medicine. The pediatricians are aiding overpopulation by saving the children who used to die "in the second summer".

In my early years there was no such thing as limiting the population. There didn't need to be. Children were assets: instead of playing basketball they milked cows. Now it has become a cold question of convenience and domestic economy. What are we doing about it? We are hemmed in by legal and religious restrictions. That is going to be modified in the near future, because the women will see to it. Religion will hold just about so long. Whenever it brings too many children and interferes too seriously with motor car rides and bridge, it will have to be a little less stringent. Religion has a way of keeping up with civilization.

I have been very much interested in the changing attitude of the young expectant mother. When I was a kid practitioner, when a young woman found she was pregnant, she got a bunch of dry goods and set to work making baby clothes, and was happy in it. Now she gets a Sears, Roebuck catalogue and sends in an order, and goes on playing bridge. If it happens to be twins, it is simply too bad!—And there is a duplicate order.

There is a type of female complainer who has a real problem. She comes alone without the "old man". She will probably say she wants a physical examination. You can see icicles hanging down from her chin. That is how friendly she is. Now the diagnosis there is plain enough. She thinks hubby has been out visiting the blonde. The chances are he hasn't. If he is a real rounder, his wife will swear by him. The jealous woman nearly always has a faithful husband. You may think it is a joke, but it isn't.

Those women are difficult to handle. You examine her carefully—Wassermann and all—just like you were falling for the whole business. Then you tell her everything is negative. Then you ask, "Why did you think there was something wrong?" The chances are she will come across. Probably she hasn't any idea who the blonde is. It must be a blonde. Possibly hubby has given in too easily for her last new dress or a new radio. If you do not kick on what your wife wants, she is bound to be suspicious. She thinks there is something to cover up.

You can tell her there is no evidence of any trouble of any kind, and that she must have imagined it. If you happen to know "hubby", you can tell her this. Even if you do not know him, you can be sure it is all right. A great deal can be done with that type of patient. If you find a little erosion or a prolonged menstruation, as often happens purely from a psychic cause, daub a little something on the cervix that will burn.

When I was a kid running the pathological laboratory of a medical school, the greatest feat of the surgeon was to take out ovaries. Sometimes my laboratory looked like an oyster shop.

The nervous wrecks caused by that were appalling. It would make a man shiver. All of you people who take care of family practice likely know what I mean. The surgeons get their fees. Generally the family doctor doesn't.

The prolonged menstruation at the menopause: Modern woman has learned to take these things seriously. So should the doctor. Often one cannot be sure. In such cases the safest way is to open up the top of the uterus and see, particularly in women who have passed the menopause and start to bleed again. By means of operation one can determine the exact character of the pathological changes and remove that and nothing more.

The point I wish to make is, that after practicing this method for a generation, along came the "birds" with the radium tubes and sterilized the patient that way. They teach the proper treatment is radium. It stops the bleeding all right. The curette wielders claim they can curette a uterus and see whether there is any pathological lesion present. Many years ago, a pal of mine and I tried to see how thoroughly we could curette a uterus. We curetted the uteri of cadavers and then we opened the uterus to see how thorough a job we had done. Inside it looked like a tom cat had scratched the surface. The point I wish to make is that after years of labor we have learned how to expose these lesions surgically and treat them and thus retain the patients' menstrual function and with it her nervous balance. Then why should we disregard that knowledge attained and take a pot shot with radium?

Those are the three points I wanted to make.

To recapitulate: for the dysmenorrhoeic girl, potassium iodide. Bromide for nerves and heart. For the matron, diagnose the case. Try to find out what is wrong. That is more apt to be a social than a medical problem. No one should undertake an operation on these patients until he has diagnosed the entire situation. A patient may have a definite surgical pathological lesion, yet if there is this domestic discord you will not get the results you expect from operation. The chief test of a surgeon's ability is to be able to foretell what he can accomplish.

Finally, the menopausal bleeders. Expose the lesion and remove it and nothing else. It is quite as important to save the ovaries of the woman who has passed the child-bearing period as before. I did not use to know that. When the menopause is approaching, if an artificial menopause is induced, there is apt to be a tremendous nervous upset develop which may have a great influence on the domestic tranquility and the health of the patient. It is amazing the nervous disturbances we can get from an oophorectomy in a woman supposedly in the menopause.

Radiologists argue that the ovary is too far from the uterus to be influenced directly by the radium. The fact is, if you destroy the endometrium, you thereby indirectly destroy the ovary. I believe if anyone who produced an artificial menopause at any time by any method would have to get up early in the morning to answer the calls these neurotics send in, he would take the production of the artificial menopause more seriously. If he had to make the call in a horse and buggy, I know mighty well he would.

I thank you.

CORONARY THROMBOSIS—A REVIEW OF AUTOPSY FINDINGS*

GEORGE W. COVEY, M. D.,
Lincoln, Nebr.

(CONTINUED FROM LAST MONTH)

One might multiply these cases several times and each would vary from the others in some details. One that I should mention is a man who died four or five hours after the onset of pain in the right anterior chest radiating down the right arm with no pain on the left. The anterior descending ramus of the left coronary was partially occluded by a sclerotic annular ring. In this ring there was a fresh thrombus. A large area in the anterior wall of the left ventricle showed the evidence of acute infarction.

Brief resume of cases:

Case No. 1. J. D. Age 67 at death, male, white, married, laborer on railroad. No previous complaint. Died suddenly while on his way to work, 6:30 a. m., October 23, 1929.

Autopsy findings: Heart moderately enlarged, 400 grammes. Hypertrophy and dilatation both right and left ventricles. Muscle of left ventricular wall at the base, along the coronary sulcus is normal in color, thickness and consistency. Toward the apex there is an increasing amount of connective tissue and the muscle is considerably softer than normal. This is particularly true of the posterior wall of the ventricle where, in places, the whole wall is composed of scar tissue. (Fig. 7). Left coronary nearly occluded by calcified ring at its division into its two main branches. 3 cm. from its origin anterior descending ramus is so calcified and the lumen so reduced that it can no longer be traced. The lumen of the circumflex branch is exceedingly small and is constricted from time to time by annular plaques. The right coronary is small and the wall is thickened showing much calcium deposit. About 4½ cm. from its origin it is surrounded by a dense ring of calcium through which no lumen can be traced.

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*Read before annual meeting, Nebraska State Medical Association, Lincoln, May 13-15, 1930.

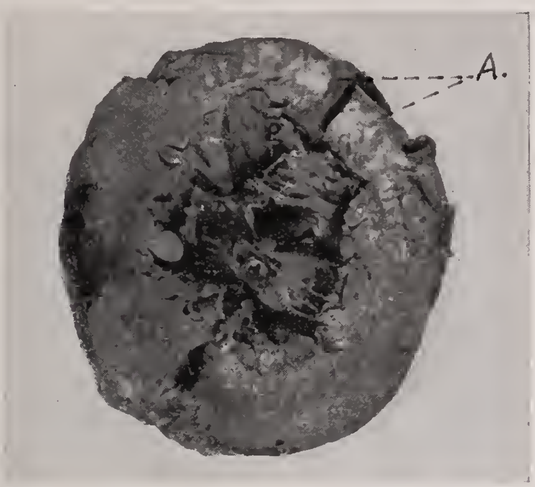

Fig. 7. Cross-section left ventricular wall, case 1. Shows scar tissue in area of old infarctions in posterior wall. A, scar tissue.

Case No. 2. J. B. E. (No. 9572—L. G. H.) Age 52 at death, male, white, married, salesman. Admitted January 24, 1929. Seen in consultation with Dr. Geo. H. Walker.

Two years ago attack of pain in chest. In hospital in Colorado Springs. Six weeks ago began having severe attacks of dyspnoea with severe discomfort in cardiac region. Both the discomfort and attacks of dyspnoea increasing in severity. A week before admission fever for 24 hours. Maximum 100.4.

Past history: Repeated tonsillitis and rheumatic fever.

Pulse 100, regular. Blood pressure 128/80. Four days ago 140/100. Marked enlargement of the heart to the left with gallop rhythm. Enlargement of liver 0 cm. below rib margin with a little tenderness, W. B. C.—19,200. Polys.—84%. Albuminuria from a trace to 2 plus. Wassermann—negative. An increasing congestive heart failure. Died on February 14, 929.

Autopsy findings: Heart very large, 600 grammes, due to both hypertrophy and dilatation. Chronic pericarditis and epicarditis, marked sclerosis of both right and left coronary arteries with considerable patchy fibrosis of the left ventricular wall, most marked in apical portion. Occlusion of anterior descending ramus. Mural thrombus in apex, left ventricle.

Case No. 3. R. B. G. Age 75 at death, male, white, married. Clinical data supplied by Drs. Geo. Lewis and F. A. Graham.

For 5-6 years very feeble and almost confined to bed. For about three years numerous attacks precordial pain radiating to finger tips of left hand. In hospital because of broken hip at time of death. Blood pressure, one reading 186/110. Pulse about 80 except day of death rose to 110. Died without apparent precordial pain but rather abruptly.

Autopsy findings: Heart not enlarged. Anterior descending ramus left coronary occluded by annular calcereous deposit 3 cm. from its origin but no gross evidence of acute infarction.

Case No. 4. Mrs. H. H. J. Age 67, female, white, widow. Seen by Dr. Floyd Rogers during night of March 18-19, 1929, with severe pain, chest and abdomen. Her pulse was normal rate and rhythm. Blood pressure 140/80. Pulmonary edema rapidly developed. Morphine ¼ gr. and amyl nitrite did not relieve the pain. On way to hospital she became ashen gray, vomited and died in the ambulance.

Autopsy findings: Heart was small. The left coronary was occluded in the anterior descending ramus. Beyond the point of occlusion the muscle is hemorrhagic and soft.

Case No. 5. B. LaR. Age 59 years, male, white, street car conductor. Had complained of vertigo, dyspnoea and severe precordial distress and sudden attacks of intense dyspnoea over a period of about three years. Early in a. m. of September 29, 1929, the family called Dr. G. H. Misko, saying that the man was having a nightmare and could not be awakened. He was dead when the doctor arrived and apparently died in great pain.

Autopsy findings: Heart is slightly larger than normal, apparently due to dilitation of left ventricle. Anterior descending branch of left coronary is occluded near its origin by calcified mass projecting from the wall into the lumen of the vessel. Ventricular wall is markedly sclerosed particularly in the region near the apex. (Figs. 8 and 9).

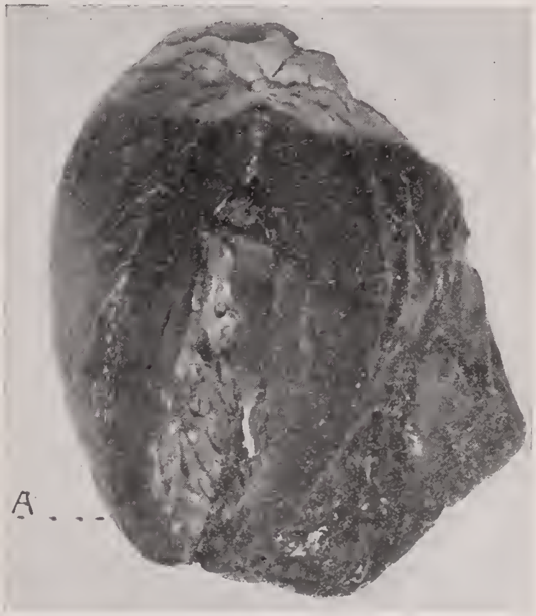

Fig. 8. Longitudinal section through posterior wall left ventricle, case No. 5. Shows thinning and cicatrisation at the apex (A).

Case No. 6. C. L. M. Age 63, male, white, married, preacher. Came on January 17, 1929, complaining of dyspnoea, orthopnoea, and fatigue. First had congestive heart failure eleven years ago. Second break in compensation six years ago. On examination he had a rapid pulse, blood pressure 184/110. There was no edema. Heart was very large and the heart sounds muffled and poor in quality. There were no murmurs and a normal rhythm. E. K. G. showed right bundle branch block. (Fig. 16). Rest in bed and digitalization promptly relieved his symptoms. Suddenly, April 24, 1929, excrutiating pain in cardiac region radiating to the left side of head, left shoulder, arm and hand. Morphine ½ gr. did not relieve pain but in about two hours he became unconscious. His pulse became very rapid and weak. Heart sounds became progressively more feeble. He died 18 hours after the onset of the pain.

Autopsy findings: The heart is very large, extensive fibrosis of left ventricular wall with recent multiple infarctions of this wall. Marked sclerosis of left coronary, practically occluding both branches. (Figs. 3, 4, 5, 6 and 10).

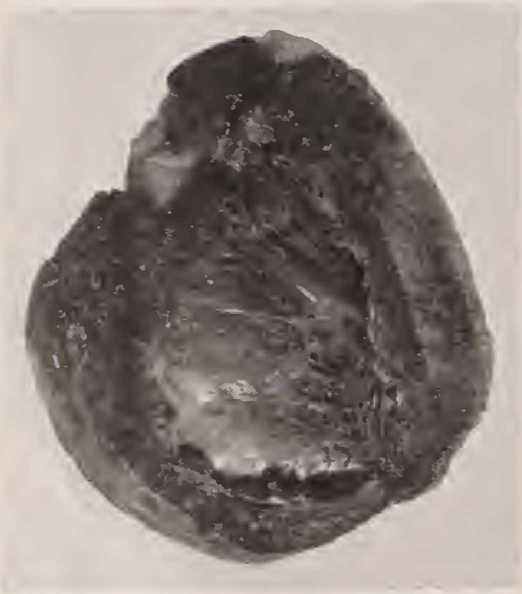

Fig. 9. Longitudinal section through anterior wall left ventricle near the septum, case No. 5. Note extensive connective tissue replacement of muscle in realm of anterior descending branch left coronary artery.

Case No. 7. J. M. P. Age 50, male, white, married. But little is known of him clinically. For several hours he had had what his family thought was acute indigestion. When Dr. R. H. Whitham arrived, the patient was dead.

Autopsy findings: Heart is moderately enlarged. Left ventricle is hypertrophied. The right coronary shows considerable thickening and atheroma throughout. At a point 2 cm. from its beginning there is a thrombus lying in a portion of the artery which is markedly constricted by an annular patch of sclerosis. No acute infarction can be made out.

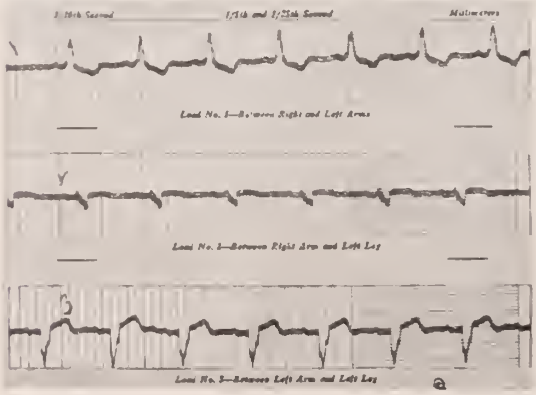
1/10th Second
1/5th and 1/25th Second
Millimeters
Lead No. 1—Between Right and Left Arms
Y
Lead No. 2—Between Right Arm and Left Leg
b
Lead No. 3—Between Left Arm and Left Leg
a

Fig. 16. Electrocardiogram. Case No. 6 showing marked right bundle branch block.

Case No. 8. M. J. T. Age 69, male, white, married. First seen by Dr. G. H. Misko on June 4th, 1928. He was complaining of pain in the upper abdomen and behind the sternum. This was made worse by eating and was accompanied by gas in the stomach. Had been present three years but much worse for six months preceeding. The only abnormality noted about the heart at that time was a feebleness and poor quality of the sounds. The liver was palpable and tender. Wassermann—negative. Urine was negative. Blood count was normal. Fractional test meal and G. I. x-ray were negative. Died suddenly fifteen months later after climbing stairs.

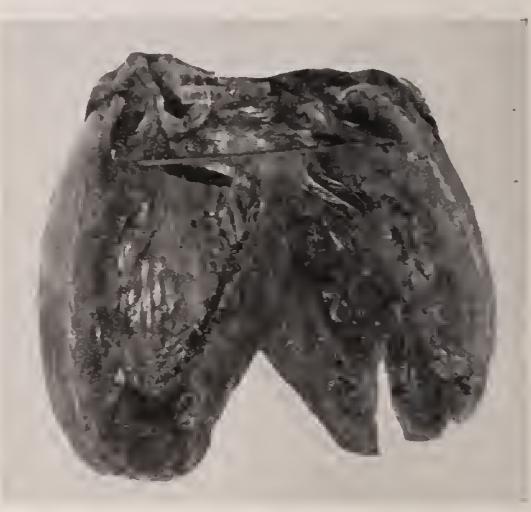

Fig. 10. Longitudinal section of left ventricular wall, case No. 6. Note extensive scarring throughout the anterior wall.

Autopsy findings: Heart was moderately enlarged. There was coronary sclerosis with occlusion of the left coronary two cm. from its origin. The wall of the left ventricle shows many bands of fibrous tissue scattered through the muscle.

Case No. 9. W. D. Age 73 years, male, white, married. Clinical data is furnished by Dr. John Thompson as follows: The patient had been ill for many months. The symptoms were all referable to his urinary tract. There had been no symptoms sugges-

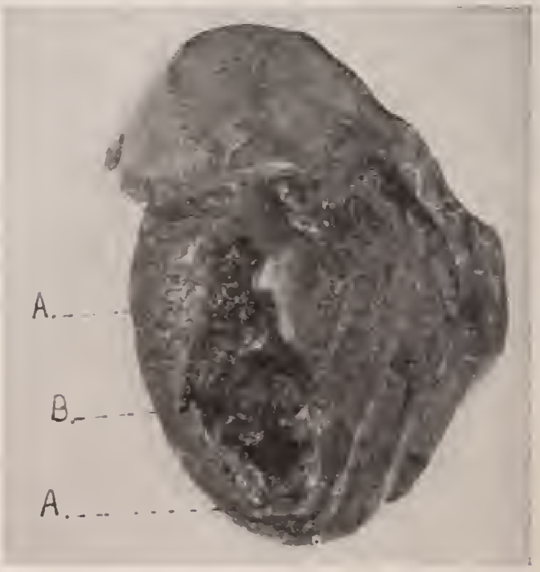

Fig. 11. Longitudinal section left ventricle wall, case No. 9. Note extensive scarring (A) of anterior wall and apex. This also involves the septum behind the large mural thrombus (B).

tive of coronary disease. Electrocardiograms failed to show the characteristic findings of coronary occlusion and infarction.

Autopsy findings: Occlusion of the anterior descending ramus of the left coronary with an old infarction of the apex of the heart and anterior half of the interventricular septum. A mural thrombus fills the apex. (Fig. 11).

Case No. 10. S. H. Age (not recorded), female, white, widow. On April 29, 1922, at 3 p. m., she was suddenly seized with excruciating pain in the cardiac region. Two large doses of morphine relieved her pain to some extent. Pulse and temperature were normal. Blood pressure 138/78. She fainted on getting out of bed and had some slight spasms of the facial muscles. These continued until she died 15 hours after onset of pain. In the past there had been precordial pain from time to time as a result of exertion.

Autopsy findings: There was a small amount of clotted blood in the pericardial cavity. The heart weighed 340 grams. In the anterior wall of the heart extending a little to the right of the interventricular groove, there is an area 3x5 cm. in diameter that is deeply hemorrhagic, very soft and friable. The anterior descending ramus of the left coronary is constricted at its origin by a yellowish annular thickened area. In this ring there is thrombus. Beyond this point lies the infarct.

Case No. 11. J. McC. Age 56, female, white, married. Admitted to hospital March 18, 1927, by Dr. J. M. Mayhew. The patient was complaining of cough, pain in chest and dyspnoea. Temperature 99, pulse 138, respiration 24. Had increasing difficulty in breathing, continuous pain in chest, left side and cyanosis. Died April 20, 1927, 32 hours after admission. W. B. C., 21,800, Polys, 85%. Was too ill to give a satisfactory history.

Autopsy findings: Heart is large, weighing 500 grams, due to hypertrophy. Complete occlusion of the left coronary artery with softening of the left ventricular wall.

Case No. 12. R. J. E. Age 51, male, white, mail clerk on fast mail train. Clinical data supplied by Dr. E. B. Finney. History is rather meager because no opportunity for observation. Felt unusually well when he started his run at 3 p. m. Four hours later he was taken off the train very ill with an intense pain in his chest. He was put on another train and sent back but died before he reached Lincoln.

Autopsy findings: The heart was not enlarged. The wall of the left ventricle was soft and friable. The left coronary was markedly constricted by annular calcified plaques but absolute occlusion could not be determined. Embalming may have dislodged the thrombus.

Case No. 13. W. W. B. Age 57, male, white, civil state (not recorded). Had not consulted a physician. Was in poor social circumstances. On the day of his death he complained to a fellow worker of pain in his chest. He was seen to fall while at work. Death was immediate.

Autopsy findings: The heart was slightly enlarged and soft. The muscle of the left ventricle is particularly soft and shows occasional patches of connective tissue. Its consistency is about that of liver. The anterior descending branch of the left coronary is markedly constricted near its origin by an annular patch of calcification. It is not certain that there is complete occlusion at this point.

Case No. 14. W. S. C. (No. 8491. L. G. H.) Male, white, married, contractor. Clinical data by Dr. Earl Deppen. Admitted September 15, 1928, complaining of pain in the abdomen with distension. Nine days before admission an attack of sharp pain in the precordium requiring a hypo of morphine for relief. Since then anorexia, general pain in the abdomen, and distension with gas. Four days before admission sharp pain in the upper abdomen requiring a hypo of morphine. There was nausea but no vomiting.

Has had, for number of years, stomach trouble with gas and occasionally sugar in the urine. On admission temperature 100, pulse, 88, respiration 20. Heart sounds were faint and heart was enlarged. No murmurs. Abdomen showed general distension. Some tenderness in the left renal region. W. B. C. 15,650, polys 86%. Urine negative.

On day after admission appendectomy under ethylene. Appendix was bound down by adhesions, inflamed, and the mucosa thickened. When returned from surgery, pulse 160, irregular and weak. Four days later pulse 130. Abdomen remained distended, wound broke down and he died on the eighth postoperative day.

Autopsy findings: Heart large and heavy. There is an old infarct in the upper portion of posterior wall left ventricle. This is 5x4 cm. and the wall is about 7 mm. thick and completely fibrous. Circumflex branch of the left coronary is occluded 1 cm. from its origin.

Case No. 15. J. C. Age 64, male, white, married, real estate dealer. First seen December, 1925, with progressive congestive heart failure over a period of two years.

About 1918 had a severe attack of precordial pain followed by a period of several months of cardiac decompensation. On recovery from this he resumed his business and continued with it until 1925. On digitalization his symptoms improved and he was again able to be about. He was observed from 1925 to 1928.

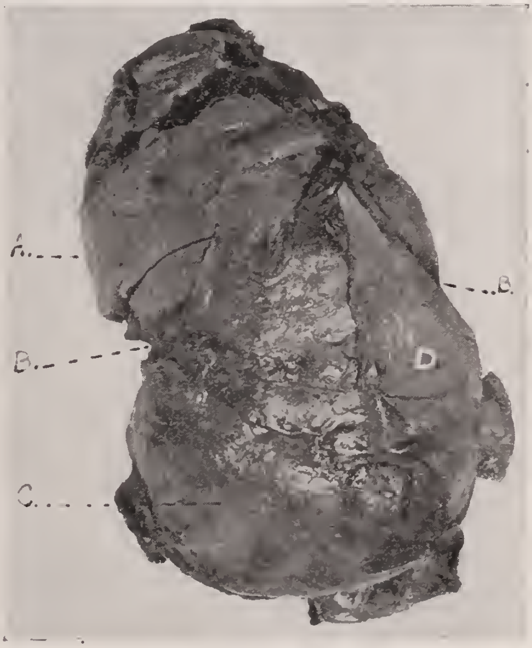

Fig. 12. Anterior view of heart and aneurysm, case No. 15. A, left ventricle; B, constriction between ventricle wall and aneurysm; C, aneurysm covered by adherent pericardium; D, flap of pericardium turned back.

During this time he had a renal colic, an attack of bronchopneumonia, and repeated attacks of suppurative diverticulitis. This became so severe that in December, 1926, a section of his descending color was removed and a colostomy was made. He got along well until February, 1928. From this time on he had progressive congestive heart failure and died May 30, 1928. He had but the one attack of pain.

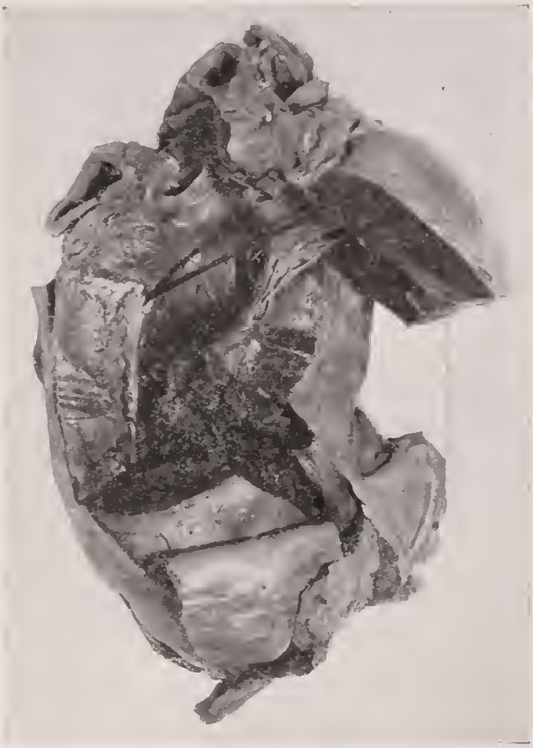

Fig. 13. Posterior view of Fig. 12 with portion of ventricular wall held back permitting view into mouth of aneurysm. Note thrombus filling the aneurysm.

Autopsy findings: Heart enormous in size. Adhesive pericarditis. Very large aneurysm of the left ventricle. (Figs. 12 and 13). Occlusion of the anterior descending ramus left coronary.

Case No. 16. C. E. D. Age 54, male, white, married, barber. Seen October 25, 1925, with breathlessness, cough and precordial pain. These symptoms came suddenly three months previously while undergoing unusual exertion. Exertion or decubitus would bring on return of this pain often requiring morphine for relief. His pulse was rapid and blood pressure was low, 106/72. The heart was markedly enlarged to the left. The impulse diffuse and no murmurs heard though the sounds were a poor quality and muffled. There was some enlargement of the liver and moisture in the bases of both lungs. Complete rest in bed and digitalization relieved his symptoms. A week after leaving the hospital he died suddenly while lying in bed.

Autopsy findings: There is effusion of 120 cc of clear fluid in the pericardium. The heart is small. Practically the whole left ventricular wall is thin, pale and apparently composed of connective tissue. (Figs. 14 and 15). A strip of fairly normal muscle remains at the base along the atrioventricular groove. There is occlusion of the anterior descending ramus of the left coronary and the posterior descending ramus of the right. A mural thrombus is lodged in the apex of this ventricle.

Case No. 17. D. M. B. Age 44, male, white, married. About four or five hours before death, seized with excruciating pain in the right mammary region radiating down the right arm to the hand. He was not relieved by large doses of morphine.

Autopsy findings: The heart is moderately enlarged. An area of the anterior wall of the left ventricle is pale and soft. There is extreme reduction of the calibre of the anterior descending branch of the left coronary artery, due to sclerotic changes of the vessel. This leads to the apex of the pale softened area. Complete occlusion or thrombus could not be definitely determined due to embalming.

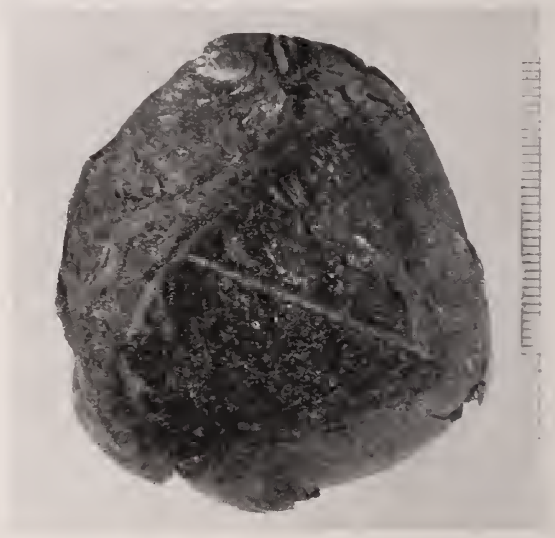

Fig. 14. Longitudinal section through anterior wall left ventricle, case No. 16. Note thinness of the wall and extensive replacement of muscle by scar tissue except at the base.

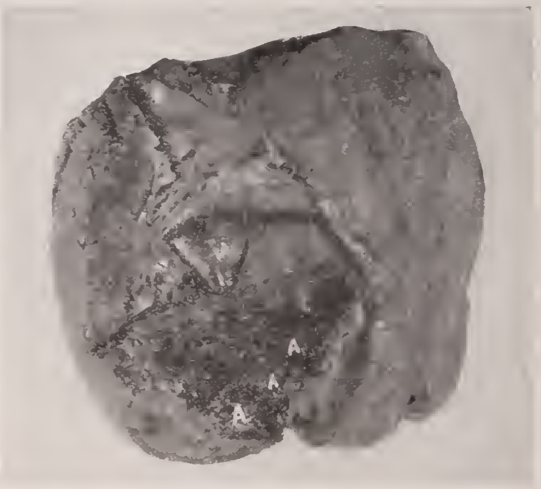

Fig. 15. Longitudinal section through posterior wall case No. 16. Shows in addition to the old infarctions the mural thrombus lodged in the apex (A).

Case No. 18. M. S. S. Age 42, female, white. While on the street patient suddenly fell over, apparently from a faint. She was taken home in an ambulance. Seen by Dr. G. H. Walker. Had recovered consciousness and complained of intense pain in the precordial region. Died within two hours, apparently with pulmonary edema. No further history obtained.

Autopsy findings: Anterior descending ramus of the left coronary is extremely sclerotic and in places its lumen cannot be traced. The anterior wall of the left ventricle near the apex is very soft and moist.

SUMMARY:

I have sketched briefly the history of our knowledge of coronary sclerosis, the anatomy of the coronary circulation, the pathologic picture of sclerosis, a classification of the cases, a typical syndrome, and finally a very brief review of 18 cases showing some of the many expressions of this typical syndrome and variations in pathology.

The cases briefly reviewed show a wide variation in acuity of lesions, in manner of death, and in the type and distribution of pathology in the heart. These are cases that died suddenly with relatively little apparent pathology; cases with extensive heart changes but no symptoms until the terminal syndrome; cases in which, with vast changes slowly accumulated, nothing was evident to account for the abrupt termination; a case with one initial attack of pain 10 years preceding death and an immense pathologic change; a case with a comparable amount of pathologic change that had pain only on the day of death; cases in which, so far as the main branches of the coronary are concerned one could not be certain that complete occlusion existed but the whole clinical picture and microscopic findings proved that they must have fallen in this class. The great diversity of both clinical and pathological findings is thus emphasized.

BIBLIOGRAPHY

1. Levine, Samuel A.: Coronary Thrombosis: Its Various Clinical Features. The Williams and Kilkins Co., Oct., 1929, p. 16.

2. Hallowell, Edward: On Rupture of the Heart and the Morbid Appearances Associated With It. Am. Jour. of Med. Sc., 33:74 (1835).

3. Thurnam, John: On Aneurisms of the Heart; With Cases. Medico-Chir. Trans. 21:187 (1838).

4. Flint, Austin: Diseases of the Heart. Blanchard and Lea, Philadelphia, 1859.

5. Herrick, Jas. B.: Atypical Features of Acute Coronary Occlusion. Annals of Internal Medicine. 3: 105 (Aug.) 1929.

DISCUSSION:

FRANK CONLIN, M. D. (Omaha): I want to thank Dr. Covey as well as compliment him on his exhaustive paper and to emphasize the fact that he brought out that we may have changes in the coronary arteries that are not necessarily a part of general arteriosclerosis. This is an important point that should be remembered. I have always been impressed, in looking over the obituary column in the Journal of the American Medical Association, of the number of doctors who die of arteriosclerosis. We might almost call coronary arteriosclerosis the cause of doctor's deaths. Doctor Covey emphasized the clinical and pathological findings. I have had opportunity to read his paper and I am sorry that he did not have more time to go into the post mortem findings of his series of cases. Undoubtedly many cases of coronary artery diseases are mistaken for abdominal conditions and Dr. Covey has cited such cases in his post-mortem statistics. A patient having an attack of nausea, vomiting, and upper abdominal pain is too frequently operated upon for upper abdominal pathology without sufficient consideration being given to the heart. If we will bear in mind the close similarity in symptoms of coronary artery diseases and upper abdominal conditions we might prevent operation in some instances and save the lives of some of our patients.

GEORGE W. COVEY, M. D. (closing): I want to thank you for your attention. I purposely avoided taking up the diagnosis and treatment of this condition as it would take too much time. I want to warn against one thing. If you have clinical findings strongly suggesting coronary occlusion and don't get a typical cardiographic finding, do not discard your diagnosis just because of not having this finding. Electrocardiology is a very fine aid in the diagnosis if it agrees with your clinical findings.

There are a good many of my cases that I have seen only when dead.

In regard to the size of the hearts the findings in this series seem to indicate that the hearts are usually hypertrophied.

THE MINOT-MURPHY TREATMENT IN TYPES OF ANEMIA OTHER THAN PERNICIOUS ANEMIA* (CONCLUDED)

VICTOR E. LEVINE, M. D., Ph. D.,
Omaha, Nebr.

ANEMIA DUE TO HEMORRHAGE

One of the most common forms of anemia is the anemia due to hemorrhage. Loss in blood may take place through the rectum in hemorrhoids, through the intestine from ulceration or irritation due to parasites, such as bacteria or intestinal worms, through the stomach as a result of the presence of ulcer or through any part of the alimentary tract due to carcinoma, or through the uterus as a result of excessive menstrual flow in early life and bleeding from a fibroma or from cancer of the cervix or uterus in later life. The dietary procedure of Minot and Murphy is bound a priori to produce good results in the type of anemia due to acute or chronic loss of blood, for the very brilliant experiments of Whipple and Robscheit-Robbins were performed on dogs rendered anemic by hemorrhage.

In connection with anemia due to hemorrhage, we may cite the cases described by Murphy and Powers. These men reported on the effect in seventeen patients of treatment with beef or calves liver, together with a diet containing green vegetables, fruit and red muscle meat. The patients treated had the following condition: fibromyoma of the uterus, hyperplasia of the endometrium, chronic endometritis. menorrhagia, extra-uterine pregnancy, incomplete abortion, adenocarcinoma of the rectum, hemorrhoids, and epistaxis. These patients showed a definite increase in hemoglobin under the dietary treatment. The administration of iron together with liver proved more effective in increasing hemoglobin production than iron alone.

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*From the Department of Biological Chemistry and Nutrition, School of Medicine, Creighton University, Omaha, Nebraska.

Delivered at the annual meeting of the Nebraska State Medical Association, Lincoln, May 13, 1930.

It has also been shown clinically by Vaughan that the new nutritional regime is excellent for combating this type of anemia. Vaughan treated successfully seven anemic patients. Four of them developed anemia from hemorrhage due to gastric ulcer, and one from hemorrhage due to duodenal ulcer. One patient, a young woman suffered hemorrhage after amputation of the cervix for congenital erosion and one married woman developed bilateral general thrombosis and constant pyrexia after panhysterectomy for severe hemorrhage. Huth and Kessler and also Weill, Pollett, Levy and Flandrin also cite cases of anemia due to hemorrhage, in which the patients improved under the new treatment. The writer obtained good results with liver therapy in one patient with duodenal ulcer complicated by severe anemia due to hemorrhage. Liver is not only rich in iron and in all the anemia-curing principle of Whipple and Robscheit-Robbins, but like all protein foods possesses great power for neutralizing an excess of gastric acid. In another case where liver seemed to stimulate gastric secretion to excess, the anemia due to hemorrhage from a gastric ulcer was very readily controlled by liver extract combined with iron therapy.

LIVER THERAPY IN ANEMIA WITH PATHOLOGICAL CHANGES IN THE ALIMENTARY TRACT

Anemia is easily induced as a result of malignancy in the digestive tract. Davies reported five cases of this type of anemia. Four patients had carcinoma of the stomach and one was probably suffering from carcinoma of the pancreas. All had symptoms of anemia as well as achlorhydria. The skin was lemon-tinted. Three of these patients showed improvement under liver therapy.

Meulengracht and others maintain that intestinal stricture due to old, healed or partly healed tuberculous ulcers or due to other causes lead in some cases to the development of pernicious anemia. This type of anemia has been at times apparently cured on removal of the stricture by resection (Seyderhelm, Lehmann and Wichels). Meulengracht in one case has effected a cure by liver treatment.

LIVER THERAPY IN ADDISON'S DISEASE

Liver therapy may prove to be a valuable adjuvant in Addison's disease. Manion reported the favorable effect of combined treatment—liver extract, thyroid extract and adrenalin—on a patient with Addison's disease. On admission to the hospital the blood pressure was 98 systolic and 68 diastolic, the pulse rate was 90 and 100, and the basal metabolic rate was -12. Manion does not give complete data after treatment except that the blood pressure rose to 120 systolic and 70 diastolic and that the pulse went down to 80 and that the red cell count was 4,900,000. The patient was discharged and went back to work.

LIVER IN ECLAMPSIA

Miller and Martinez in this country and Matters in Australia report very favorable results in eclampsia following liver treatment. According to Miller and Martinez convulsions never developed in a pre-eclamptic woman following a liver diet even though the condition may have been complicated by a preconceptual nephritis. In fourteen consecutive cases of eclampsia improvement took place and pregnancy allowed to continue. All patients in convulsions when first seen were treated successfully without drastic intervention. Matters maintains that the treatment gave results better than those ordinarily obtained.

LIVER IN THE ANEMIA OF MYXEDEMA

It is a well known fact that myxedema is often accompanied by marked anemia. Sturgis and Isaacs produced by means of liver extract a reticulocyte response in a patient with severe anemia secondary to myxedema, whose erythrocytes numbered 1,300,000 per cubic millimeter. The blood differed from that of typical pernicious anemia in the sparsity of poikilocytosis and in the normal icterus index. Previous to the development of the anemia the basal metabolic rate was minus 30 per cent. When the anemia was most marked the metabolic rate was normal. With the improvement of the blood picture due to treatment the rate fell to minus 25 per cent. The increased metabolic activity of the process associated with the anemia masked the decreased metabolism accompanying the myxedema.

LIVER THERAPY IN PAROXYSMAL HEMOGLOBINURIA

Liver therapy should be given a trial in paroxysmal hemoglobinuria. Lichtman reported such condition in a man aged thirty-four, who was cured by this mode of treatment. Whenever he exposed himself to damp cold, his urine became almost black. Accompanying this condition came chills, painfulness of all joints, oppressive sensation in the chest and fever. During childhood the patient would always develop hematuria after a cold bath. During service in the war he would also develop hematuria whenever the weather was cold and damp. When the Rosenbach test was performed, that is when the patient was given a cold foot bath lasting ten minutes, blood appeared in the urine.

After liver was prescribed the patient gained in weight and did not show any blood in the urine following exposure to cold. When the liver diet was discarded for six months Rosenbach's test again caused the appearance of a dark urine. The paroxysmal hemoglobinuria recurred with all its symptoms. When liver treatment was resumed Rosenbach's test proved negative and the hemoglobinuria did not return.

LIVER IN HEMOPHILIA

Liver diet in hemophilia has also been the subject of study. Morlock was able to cut down the coagulation time by means of liver and liver extract. Kugelmas and his associates have recently emphasized the value of liver and other visceral organs in stimulating the clothing function of the blood.

MINOT-MURPHY TREATMENT IN SEVERE ANEMIAS OTHER THAN PERNICIOUS ANEMIA

We know definitely that the Minot-Murphy treatment is specific in pernicious anemia and that it is often effective in less severe types of anemia. We must not forget that three other types of severe anemia exist—anemia due to infestation with dibothriocephalus latus, sprue, and aplastic anemia—and that in these conditions liver therapy is winning a place.

DIBOTHRIOCEPHALUS LATUS INFESTATION

Infestation with some types of worms may result in a condition resembling hematologically pernicious anemia. Such type of anemia is due to the fish tapeworm, dibothriocephalus latus. Minot-Murphy and Stetson cite the report of Kerr and Falconer who treated by the new method the anemia caused by this intestinal parasite. The result was an intense response in the reticulocyte reaction and a rapid rise in the number of red blood cells. Issacs, Sturgis and Smith reported a case of dibothriocephalus anemia in which the blood picture, increase in bilirubin, achlorhydria, fever, neurological and other clinical symptoms were indistinguishable from those of pernicious anemia. They found it possible to cause a hematopoietic remission with disappearance of the symptoms by feeding liver daily, even though the parasite was not removed. A rise in reticulocytes ensued. Wahlberg also reported a reticulocyte response in a patient with dibothrocephalus latus anemia, and Keefer and Yang recorded similar findings in hookworm anemia. In the patient, treated by Isaacs, Sturgis and Smith, expulsion of the parasite, which was accomplished later by the administration of oleoresin of aspidium, accompanied the continuance of the convalescence. Richter, Mauer and Eyl also observed a case of severe anemia due to dibothriosephalus latus. The anemia was pernicious in type, and the patient showed marked improvement from a hematological and clinical standpoint on treatment with a high calorie diet rich in liver extract and in vitamins. When first seen the patient was in so moribund a condition that antithelminthic therapy, itself dehydrating and toxic, was not attempted. After improvement under diatetic management such therapy was instituted without ill effect.

SPRUE

Sprue, a deficiency disease often resembling pernicious anemia but differing from it in many important respects, is said to respond favorably to the therapeutic procedure of Minot and Murphy so well adapted to the treatment of pernicious anemia. Minot, Murphy and Stetson have themselves reported the applicability of the new liver therapy in sprue. As a matter of fact, liver soup has been an old native remedy for sprue in Ceylon, and it has long been the rule in the London School of Tropical Medicine to advise the taking of liver soup in this disease. Castellani and Chambers, Bloomfield and Wyckiff, Wood, Baumgarten, and Richardson and Klumpp have reported favorably on the use of the Minot-Murphy therapy in the treatment of sprue. Ash has recently employed liver extract among those in Porto Rico afflicted with this disease. His conclusions are that the anemia of sprue can be expected to respond to the administration of liver extract with a shower of reticulocytes, unless the bone marrow is hypoplastic. Single cases of sprue that responded satisfactorily to liver treatment have been recorded by Elders, by Vaidya, and by Panton and Valentine. The improvement was far more dramatic than that claimed for any other line of treatment and was similar in every respect to that observed in pernicious anemia.

APLASTIC ANEMIA

With reference to aplastic anemia, the consensus of opinion is that diet is of no avail in its treatment. Nevertheless, we must keep in mind that aplastic anemia may be induced by dietary habits giving rise to malnutrition or undernutrition. Warr reported aplastic anemia as the result of prolonged feeding of milk. Starvation may operate to produce a condition of aplastic anemia. Aplasia of the bone marrow in the wing bones of pigeons follows simple starvation, according to Bizzozero and Torre, and to Doan and Sabin.

It is interesting to note that in aplastic anemia due to starvation recovery is by no means impossible. The bone, unlike the liver or kidney, does not possess a complicated architecture. It can regenerate rapidly and readily even after the most complete destruction. When food is administered to animals suffering from starvation aplasia, complete regeneration of the marrow takes place with the restoration of a normal blood picture. Duke recently described a case of aplastic anemia in an adult patient whose stomach because of a developmental abnormality, was scarcely larger than that of a twelve year old child. He had never been able to tolerate normal quantities of food and had been living on a deficient diet for many years. The administration of a concentrated diet rich in liver and in vitamins gave rise to very rapid recovery. In fact the dietary treatment changed the patient within a period of two months from an almost moribund individual with the classical findings of aplastic anemia to a human being in good health.

Still another interesting case of aplastic anemia that showed improvement under a dietary regime has been reported by Upham and Nelson. The patient was under continuous observation for two years, the symptoms having been constantly those of primary aplastic anemia. At a time when the condition of the patient was becoming worse, the use of fetal calf liver was begun. There was an almost immediate response to this food, as shown by the decrease and practically complete cessation of purpuric manifestation. On this treatment, however, the red cell count and hemoglobin have been maintained at a constant level but without any tendency to rise. Subsequent transfusions, however, improved the condition of the blood, and in each instance the new higher levels were maintained. Conner of the Mayo clinic has described another case of aplastic anemia in which the Minot-Murphy treatment gave very favorable results.

SUBACUTE COMBINED SCLEROSIS

We cannot pass without mentioning subacute combined sclerosis and the advisability of applying the Minot-Murphy regime in its treatment. Spinal cord degeneration may sometimes antedate the development of severe anemia. In view of the fact that funicular myelosis or subacute combined sclerosis may be a forerunner of pernicious anemia, it would be advisable to treat such pathological conditions of the spinal cord as one would a typical case of pernicious anemia. In this connection the clinical report of Natanson assumes great interest. This investigator described a case of funicular myelosis in a man aged fifty-six with achlorhydria, erythrocyte count of 2,500,000 and a hemoglobin of 63 per cent. The muscular injections of blood improved the patient, who was watched for eight months without the appearance of a blood picture corresponding to pernicious anemia. Nevertheless, the patient was readmitted four months after his discharge from the hospital with a complete blood picture of pernicious anemia. Wolff employed liver therapy with patients with funicular myelosis and observed a gain in weight and an increase in hemoglobin and in erythrocytes.

SECONDARY ANEMIA OF UNKNOWN CAUSE

Anemia is now and then encountered in a patient in which the etiological factor is obscure. Such obscure anemias should be treated by Minot and Murphy's procedure. Vaughan reported the case of a patient with unexplained anemia who improved under this treatment. Her red cell count rose from 4,600,000 to 5,800,000 and her hemoglobin from 37 per cent to 56 per cent. A second patient with anemia of indefinite cause showed no response under similar therapy. A patient diagnosed as one having pernicious anemia showed a rise in red cell count and in hemoglobin content, but nevertheless failed to gain in weight or improve in health. When operated upon a few months later, widespread lymphosarcomatous deposits were found.

Minot and Murphy also reported three cases of anemia with no obvious cause. In one case the patient had a red cell count 50 per cent below the normal. Bone marrow at biopsy was like that of pernicious anemia, although there were no achlorhydria, no glossitis and no lesions of the central nervous system, and the icteric index was normal. The second patient had anemia for three years. The blood picture resembled that of secondary anemia. The size of the red cells was normal when the count was below two million. The third patient presented a blood picture unlike that of pernicious anemia, although the color index approached one. The gastric contents revealed the absence of hydrochloric acid. The hands presented the appearance of those characteristic of pellagra. The three patients reported by Minot and Murphy made recoveries under liver treatment. It is very interesting to note that Giffin and Watkins very recently reported that the best and most rapid therapeutic results they obtained on treatment of secondary anemia with desiccated fetal liver proved to be in patients whose anemia they classified as belonging to the cryptogenic group, a group in which a clinical cause could not be found for the existing anemia.

SUMMARY

In conclusion we might emphasize the desirability and advisability of applying the Minot-Murphy treatment of pernicious anemia to other types of anemia. Many cases of secondary anemia respond very favorably to the Minot-Murphy procedure. A patient suffering from this type of anemia should by all means receive this treatment. Clinical evidence is accumulating pointing to the definite value of this treatment in secondary anemia.

Not only should we make use of liver and kidney recommended by Minot and Murphy in the treatment of secondary anemia but also of the still later addition to anti-anemia therapy, namely stomach tissue. Negative results have been reported in the treatment of anemia undoubtedly due to the use of insufficient quantities of liver or other foods rich in the dietary factor of Whipple and Robscheit-Robbins. Unfavorable results have also been reported due to the failure to realize that the treatment of secondary anemia, although not as spectacular in response as the treatment of pernicious anemia, is still capable of improving markedly the blood picture as well as subjective symptoms.

It must be remembered that at least two months sometimes elapse before a satisfactory improvement may be obtained. In secondary anemia a long period of time is often required to permit the hemoglobin-producing mechanisms to operate before the formation of hemoglobin itself takes place. It must be also remembered that many observers—Minot and Murphy, Keefer and Yong, Cabot and others—emphasize the importance of administering daily massive doses of iron salts (60 to 90 mgs of iron lactate or iron and ammonium sulphate) in conjunction with liver in order to develop the maximal hematopoetic response. So important may iron itself be that Witts reports that in simple achlorhydric anemia large doses of this substance proved effective, while liver and hydrochloric acid gave little or no response.

It is to be understood, however, that the Minot-Murphy procedure in the treatment of any type of secondary anemia does not supplant such therapeutic measures as the removal, if possible, of causative factors like infection, and such therapeutic measures like mental and physical rest, sunshine in the summer and ultraviolet in the winter.

DISCUSSION

F. W. HEAGEY, M. D. (Omaha): I do not think there is any more startling and important subject than the use of diet in the treatment of disease at the present time. Not many years ago, these terrible diseases seemed to be out of our reach. Yet the very food handed out by butchers for our cats and dogs in earlier days is our best remedy today.

We wonder whether disease is caused by vitamin deficiencies, and whether the bacteria are secondary invaders.

The most important thing is to make sure the patient has anemia. Not so much now as in times past, but I see many patients who have been told they had anemia. Let us not fail to run down the cause of the patient's disability. One thing was suggested by Dr. Duke two years ago—the color of the palms of the hands with reference to hemoglobin. There is a difference between the doctor's or nurse's palm and the patient's palm. It is an excellent test in regard to blood volume.

The other thing is the conjunctiva. Your blood count depends on who does the blood count, so far as the determination of hemoglobin is concerned. Many times I take what the conjunctiva or palms tell me. I am deceived by the pallor of the patient. Some patients have a pallor that is hereditary. It would make you believe they had anemia, yet their tests show they have not. One should be on guard if the patient has pallor. Perhaps it is increased. It makes us think of other disturbances. The diagnostic end of it is puzzling, particularly as to whether it is primary or secondary.

The disturbances such as Dr. Levine mentioned in regard to the nervous system and the various scleroses often appear as the earliest symptoms of pernicious anemia.

We see a lot of them without blood changes; some without and some with acid in the stomach. We do not have enough data to know whether they will result in pernicious anemia. As Dr. Levine mentioned, they respond nicely so far as the progress of the disease, but not the restoration of the nerves themselves.

The etiology of these secondary anemias is of interest, and I have been impressed a good many times by the causes outside of those Dr. Levine mentioned. One is puzzling, and that is obstinate constipation. I remember a patient running a hemoglobin of 55 per cent who had been constipated for fifteen years. X-rays showed a large colon. We took out her colon. It has been out two months. Her constipation is relieved and her hemoglobin is normal. She still has a few headaches.

The absence of free hydrochloric acid is a second cause. Some cases have existed for twenty years without gastric acid. As the patient gets older, this handicap then begins to count. The use of histamine to determine definitely the absence of free hydrochloric acid is necessary. Take a test meal. Give one-half milligram of histamine subcutaneously and cautiously. Some patients are upset temporarily. In this case the diet must be looked after in order to govern a condition of that kind.

The presence of chronic infections, particularly lues, we know so well. Many anemias are caused by the fact that a patient does not get enough to eat, or of the right kind of food.

As far as treatment is concerned, under secondary anemias, it was my privilege and fortune to be with

Dr. Murphy in Boston last year. Around the laboratory there were innumerable charts showing the dogs bled out experimentally, and patients with bleeding fibroids using preparations of liver to bring back the blood formation and increase the blood cells—in most cases without avail until they added iron. The amounts we gave were too small. He was insisting on 300 milligrams a day. When he pushed iron up to that point, plus liver, the anemia disappeared. This old-fashioned remedy of iron is again in the foreground. We do not want to use pills that pass through the patient unchanged. Sometimes they are not absorbed. Do not blame the iron if that patient cannot absorb it. The use of other substances besides liver has been mentioned by Dr. Levine.

They say a prophet is not without honor save in his own country, and among his own people; but I do not think you can pick up an article on nutrition but what you see Dr. Levine's name mentioned.

DR. LEVINE (closing): A discussion is important, because whatever the speaker leaves out, the man who discusses will inject. That is exactly what Dr. Heagey did. I have classified constipation under the general term "Malnutrition", but implications are not often very good. I am glad Dr. Heagey brought out the fact that anemia may be a disease of the gastro-intestinal tract, which, when cured, will do away with the anemia. Even the removal of the thyroid or treatment with iodin of a simple goiter will quite often relieve an anemia.

I do not want to leave the impression that the Minot-Murphy diet alone is the only thing. It is a very great help, and we cannot leave it out entirely and rely upon other methods altogether. Iron is a very important thing. We often discard the old and grab the new, whereas the old may have some virtue. In order to build hemoglobin, we must have iron and protein—the brick and bricklayers—and the bricklayers are the substances which are found in generous amounts in liver and chicken gizzards and other foods. If you have liver alone, you have the architect and not the material. If you have irone alone, you have the material and not the architect. The best results are obtained when you have the whole thing—iron plus liver.

Iron has more than the function of producing red cells. There are many processes such as oxidation and reduction and assimilation that are very much linked with iron. Every cell has iron, especially the nucleus. One-half of the iron in the body is in the tissues and the other half in the blood. An individual may have plenty in the blood, and be depleted in the tissues.

A word with reference to acid. We are accustomed to give hydrochloric acid in the treatment of anemia. Hydrochloric is given, but we cannot push it. The normal amount of hydrochloric acid in a human being is 27,000 drops per day. If we give 15 drops of hydrochloric, it is not touching the situation. It is not enough. We have attempted to use hydrochloric acid in amounts ordinarily given by another acid coming from lemon juice. Every time you give a lemon to a patient with anemia, you give 900 drops of acid. If we use hydrochloric acid and supplement it with three not the material. If you have iron alone, you have a way of increasing markedly the acid content of the stomach of an anemic patient.

I think this subject is becoming of interest, and we are not only learning the physiology, but good points in treatment and prevention of the disease.

I was interested in Dr. Heagey's discussion because in many points he hit the high spots.

I thank you.

REFERENCES

Audelbert and Fabre, J. Anemie Pernicieuse Gravidique Traitee par la Methode de Whipple, les petits Transfusions, et L'Autohemotherapie. Bulletin de le Societe d'Obstetrique et de Gynecologie, 1927, 17, 77.

Barlow, O. W. The Influence of Beef Muscle, Beef Liver, and Liver Extract on the Anemia of Fasting and of Rice Diseases in Pigeons. American Journal of Physiology, 1930, 91, 429.

Beck, W. Einwirkungen der Leberdiat auf das rote Blutbild und deren Cholesteringehalt des Blutes. Klinische Wochenschrift, 1928, 1235.

Behamou, Jude and Gille. Anemie Febrile Aigue Guerie par la Methode de Whipple. Bulletins et Memoires de la Societe Medicale des Hopitaux de Paris, 1928, 52, 1145.

Bloomfield, A. L., and Wyckoff, H. A. Remission in Sprue Following High Liver Diet: Case Report. California and Western Medicine, 1927, 27, 659.

Brault, P. Un Cas de Guerison d'Anemie Pernicieuse Gravidique avant l'Accouchment par Ingestion de Foie. Bulletin de la Societe d'Obstetrique et de Gynecologie de Paris, 1928, 17, 619.

Brill, J. C. Specificity of the Minot-Murphy Diet in Pernicious Anemia. Journal of the American Medical Association, 1927, 89, 125.

Brill, J. C. Acute Febrile Anemia. A New Disease? Archives of Internal Medicine, 1926, 37, 244.

Cabot, R. C. Secondary Anemia With Menorrhagia. Comparative Response to Liver and Iron Therapy. New England Journal of Medicine, 1929, 201, 1003.

Conner, H. M. High Vitamin Diet in the Treatment of Pernicious Anemia. Proceedings of the Staff Meetings of the Mayo Clinic, 1927, 2, 106.

Conner, H. M. Improvement of Neurologic Manifestations. Proceedings of the Staff Meetings of the Mayo Clinic, 1928, 3, 454.

Conner, H. M. Abstract of Discussion. Journal of the American Medical Association, 1928, 91, 932.

Davidson, S., and McCue, J. G. Phenomenon of Reticulation and Alteration in Size of Red Blood Corpuscles After Liver Therapy. Lancet, 1928, 2, 1014.

Davidson, S., McCue, J. G., and Gulland, G. L. Treatment of Pernicious Anemia With Liver and Liver Extract. Lancet, 1928, 1, 847.

Davies, D. T. Liver Therapy in Anemia of Alimentary Origin. Lancet, 1930, 1, 292.

Dechamps, P. N., and Froyez, A. Anemie Pernicieuse Gravidique Traite par la Methode de Whipple. Retour au Chiffre Globularie Normal Sans Interruption de la Grossesse. Accouchment a Terme d'un Enfant Vivant. Bulletins et Memories de la Societe Medicale des Hopitaux de Paris, 1928, 52, 143.

Deljust-Defiol. Etude Clinique de l'Action simulante des Extracts de foie, Rate, Rein sur Diverse anemies. Progres Medicale, 1930, February 1.

Delmen. Quoted by Schmidt, H. B. Puerperal Anemia. Surgery, Gynecology and Obstetrics, 1918, 27, 596.

Devraigne, L., and Laennec, T. A proprs de Deux Observations d'Anemie Pernicious Gravidique. Bulletin de la Societe d'Obstetrique et Gynecologie, 1928, 17, 213.

Duke, W. W. Aplastic Anemia. Journal of the American Medical Association, 1928, 91, 720.

Dyke, S. C. Liver Therapy in Secondary Anemia. Lancet, 1929, 1, 1192.

Elders, C. Over de Snelheid van Bloedvorming bij Zware Anaemieen mat verschillende Dieeten. Nederlandsch Tijdschrift voor Geneeskunde, 1927, 2, 1939.

Evans, W. Severe Anemia of Pregnancy and the Puerperium. Lancet, 1929, 1, 14.

Faber, H. K. Value of Liver Extract in Identifying and in Treating Certain Anemias of Infancy and Childhood. American Journal of Diseases of Children, 1928, 36, 1121.

Fiessinger, N., and Casteran, R. Le Traitement par l'Ingestion de Foie de Veau Cru dans l'Anemie Splenique. Bulletin et Memoires de la Societe Medicale des Hopitaux de Paris, 1927, 51, 1253.

Galloway, C. E., and O'Hara, D. Puerperal Anemia. Boston Medical and Surgical Journal, 1924, 190, 161.

Gasparini, A. Azione Diuretica dell' Opoterapi Epatica. Il Policlinico, 1928, 3, 1552.

Giffin, H. Z., and Watkins, C. H. Treatment of Secondary Anemia. Journal of the American Medical Association, 1930, 95, 587.

Glaubach, S. Die dieuresfordernde Wirkung von Leberextrakt bei niereninsuffizierten Hunden. Wiener klinische Wochenschrift, 1929, 42, 1437.

Glaubach, S., and Molitor, H. Untersuchungen uber die hormonal diuresergelnde Tatigkeit der Leber. 1. Mitteilung. Archiv fur experimentelle Pathologie und Pharmokologie, 1928, 132, 31.

Grossman, M. Die Heilung der genuinen Lipoidnephrose durch Leberdiat. Wiener klinische Wochenscrift, 1927, 40, 1558.

Grossman, M. Moderne Diuretika. Schweizerische medizinische Wochenschrift, 1928, 58, 1249.

Hart, E. B., Elvehjem, C. A., Waddel, J., and Herrin, R. C. Iron in Nutrition: Nutritional Anemia on Whole Milk Diets and Its Correction With Ash of Certain Plant and Animal Tissues or With Soluble Salts. Journal of Biological Chemistry, 1927, 72, 299.

Hart, E. B., Steenbock, H., Waddel, J., and Elvehjem, C. A. Iron in Nutrition. VII. Copper as a Supplement to Iron for Hemoglobin Building in the Rat. Journal of Biological Chemistry, 1928, 77, 797.

Holsti, O. Liver Extract as Adjuvant in the Treatment of Banti's Disease. Finska lak-sallsk. Handl., 1929, 71, 1005.

Isaacs, R., Sturgis, C. C., and Smith, M. Tapeworm Anemia. Archives of Internal Medicine, 1928, 42, 313.

Jordan, F. M., and McVicar, C. S. Anemia in Jaundice. I. A Clinical Study of Cases in Which Jaundice was of Obstructive or Intrahepatic Types. The American Journal of Medical Sciences, 1930, 169, 654.

Jordan, F. M., and Green. Anemia in Jaundice. II. An Experimental Study in Which Jaundice was of the Obstructive Type, (in press).

Jungmann, J. Ueber die Wirkengsweise der Leberdiat bei der perniziosen Anamie. Klinische Wochenschrift, 1928, 7, 441.

Kugelmas, I. N., Bancroft, F. W., and Stanley-Brown, M. The Determination and Regulation of Blood Clotting Function in Childhood. American Journal of Diseases of Children, 1930, 39, 467.

Lamson, P. D., and Roca, J. The Liver as a Blood-Concentrating Organ. Journal of Pharmacology and Experimental Therapeutics, 1921, 17, 481.

Larrabee, B. The Severe Anemias of Pregnancy and the Puerperium. American Journal of Medical Sciences, 1925, 170, 371.

Lichtman, E. Ueber Erfolge mit Lebertherapie bei einem Falle von Paroxysmalen Kaltehamoglobinuria. Medizinische Klinik, 1930, 26, 735.

Keefer, C. S., and Yang, C. S. Anemia of Undernutrition. National Medical Journal of China, 1929, 15, 701.

Keefer, C. S., and Yang, C. S. The Value of Liver and Iron in the Treatment of Secondary Anemia. Journal of the American Medical Association, 1929, 93, 575.

Lo Presti-Seminero, F. Contributo allo Studio della Terapia Epatica nelle Anemie Infantile. La Pediatria, 1929, 37, 701.

MacIntosh, A. H., and Cleland, J. B. A Case of Rapidly Increasing Anemia With Irregular Pyrexia and Death. Australasian Medical Gazette, 1902, 21, 462.

Mackay, H. M. M. Nutritional Anaemia in Infancy: Some Observations on a Common Deficiency Disease. Proceedings of the Royal Society of Medicine (Section Diseases of Children), 1928-29, 22 385.

Manion, W. O. Liver Therapy in Addison's Disease. U. S. Veteran's Bureau Medical Bulletin, 1930, 6, 498.

Matters, R. F. Eclampsia and the Results of Liver Treatment. The Medical Journal of Australia, 1930, 2, 83.

Maurer, S., Richter, O., and Koessler, K. K. Treatment of Severe Anemia Associated With Syphilis With a High Caloric Diet Rich in Liver Extract and Vitamins. American Journal of Syphilis, 1928, 12, 238.

Murphy, W. P., and Powers, J. H. The Value of Liver in the Treatment of Anemia Due to Hemorrhage. Surgery, Gynecology and Obstetrics, 1929, 48, 480.

Meulengracht, E. Pernicious Anemia in Intestinal Stricture. Acta Medica Scandinavica, 1927, 72, 231.

Middleton, W. S. The Erythropoietic Responses of the Various Anemias to Liver Therapy. Journal of the American Medical Association, 1928, 91, 857.

Miller, H. A., and Martinez, D. B. Liver Extract in the Toxemias of Pregnancy. Atlantic Medical Journal, 1927, 31, 141.

Minot, G. R., and Murphy, W. P. Observations of Patients With Pernicious Anemia Partaking of a Special Diet, Clinical Aspects. "Transactions" Association of American Physicians, 1926, 41, 72.

Minot, G. R., and Murphy, W. P. Treatment of Pernicious Anemia by a Special Diet. Journal of the American Medical Association, 1927, 87, 479.

Minot, G. R., and Murphy, W. P. A Diet Rich in Liver in the Treatment of Pernicious Anemia. Journal of the American Medical Association, 1927, 89, 759.

Minot, G. R., and Murphy, W. P. Liver Diet in Pernicious Anemia and the Distinction between Aleukocythemic and Myeloid Leukemia and Pernicious Anemia. Medical Clinics of North America, 1927, 10, 1093.

Minot, G. R., Murphy, W. P., and Stetson, R. P. The Response of the Retibulocytes to Liver Therapy Particularly in Pernicious Anemia. American Journal of Medical Sciences, 1928, 175, 381.

Mitchell, H. S., and Schmidt, Lola. The Relation of Iron from Various Sources to Nutritional Anemia. Journal of Biological Chemistry, 1926, 70, 471.

Mitchell, H. S., and Vaughn, M. Relation of Organic Iron to Anemia. Journal of Biological Chemistry, 1927, 75, 123.

Molfino, A. H. Tratamients de Whipple en la Anemia Aguda por Fibromatosis Uterina. La Semana Medica, 1928, 1, 725.

Molitor, H., and Pick, E. P. Die Bedeutung der Leber auf die Diurese. Archiv fur die experimentelle Pathologie und Pharmakologie, 1923, 97, 317.

Morlock, H. V. Hemopilia Treated by Liver Diet. Proceedings of the Royal Society of Medicine, Clinical Section, 1930, 23, 1277.

Moschowitz, E. An Acute Febrile Pleichromic Anemia With Hyaline Thrombosis of the Terminal Arterioles and Capillaries. Archives of Internal Medicine, 1925, 36, 89.

Murdock, T. P. Rich Liver Diet in the Treatment of Anemia With Report of Cases. Annals of Internal Medicine, 1927, 1, 123.

Orrico, J. Anemia Perniciosa y Anemia Aplastica en la Infancia. Archivos Latino-Americanos de Pediatria, 1929, 23, 125.

Pal, J. Zur Klinik und Behandlung der perniziosen Anamie. Wiener Klinische Wochenschrift, 1927, 43, 1343.

Panton, P. N., and Valentine, F. C. O. An Inquiry Into the Results of the Liver Treatment of Pernicious Anemia. Twenty Cases Treated at the London Hospital. Lancet, 1928, 1872.

Pick, E. P., and Wagner, R. Uber die hormonale Wirkung der Leber auf die Diurese. Wiener medizinische Wochenschrift, 1923, 73, 695.

Porges, O. Heilung der geniunen Lipoidnephrose durch Leberdiat. Wiener klinische Wochenschrift, 1927, 40, 1310.

Reuben, P., Field, H., and Morgan, H. S. Liver

Treatment in the Pernicious Anemia of Pregnancy. Journal of the American Medical Association, 1930, 94, 839.

Richardson, W., and Klumpp, T. G. Sprue. Report of a Case Treated With Authorized Liver Extract Effective in Pernicious Anemia. New England Journal of Medicine, 1928, 199, 215.

Richter, O., Maurer, S., and Eyl, M. Treatment of Severe Dibothriocephalus Latus Anemia With a High Caloric Diet Rich in Liver Extract and Vitamins. Journal of the American Medical Association, 1928, 91, 462.

Seyderhelm, R., Lehmann, W., and Wichels, P. Intestinale perniciose Anamie beim Hund durch experimentelle Dunndarmstrictur. Krankheitsforschung, 1927, 4, 263.

Sturgis, C. C., and Isaacs, R. Treatment of the Anemia of Myxedema With Liver Diet. Proceedings of the Second Meeting of the Central Society for Clinical Research, Journal of Clinical Investigation, 1930, 8, 663.

Thomson, A. P. An Inquiry Into the Results of the Liver Treatment of Pernicious Anemia. Seven Cases of Pernicious Anemia Treated at Birmingham. Lancet, 1928, 1, 876.

Tuscherer, J. Ueber Lebertherapie bei Sauglingsanemien. Monatsschrift fur Kinderheilkunde, 1928, 39, 193.

Vaidya, J. B. Treatment of Pernicious Anemia by Liver. Indian Medical Gazette, 1928, 63, 247.

Vaughan, J. An Inquiry Into the Results of the Liver Treatment of Pernicious Anemia. Twenty-five Cases Treated at the University College Hospital, Lancet, 1928, 1, 875.

Vaughan, J. Investigation of a Series of Cases of Secondary Anemia Treated With Liver Extract. Lancet, 1928, 1, 1063.

Vaughan, J. The Liver Treatment of Anaemias. The Quarterly Journal of Medicine, 1930, 23, 213.

Waddell, J., Elvehjem, C. A., Steenbock, H., and Hart, E. B. Nutritional Anemia on Whole Milk and Its Correction With the Ash of Beef Liver. Science, 1928, 67, 139.

Waddell, J., Elvehjem, C. A., Steenbock, H., and Hart, E. B. Iron in Nutritional Anemia. V. The Availability of the Rat for Studies in Anemia. Journal of Biological Chemistry. 1928, 77, 769.

Wahlberg, J. Liver Diet and Reticulocyte Reaction in Simple Anemia. Acta Medica Scandinavica, 1929, 72, 143.

Warner, E. C. Congenital Haemolytic Anaemia With Splenomegaly in a Child Controlled by Liver Treatment. Proceedings of the Royal Society of Medicine, Clinical Section, 1930, 23, 1278.

Weil, P. E., Pollet, Levy, R., and Flandrin, P. Les Traitements Nouveaux de l'Anemie Pernicieuse Progressive. Le Sang, 1928, 2, 218.

Whipple, G. H., and Robscheit-Robbins, F. S. Blood Regeneration in Severe Anemia. I. Standard Nasal Ration and Experimental Methods. American Journal of Physiology, 1925, 72, 395.

Whipple, G. H., and Robscheit-Robbins, F. S. Blood Regeneration in Severe Anemia. II. Favorable Influence of Liver, Heart, and Skeletal Muscle in Diet. American Journal of Physiology, 1925, 72, 408.

Whipple, G. H., and Robscheit-Robbins, F. S. Blood Regeneration in Severe Anemia. IV. Influence of Meat, Liver, and Various Extracts Alone or Combined With Standard Diets. American Journal of Physiology, 1920, 53, 236.

Whipple, G. H., and Robscheit-Robbins, F. S. Blood Regeneration in Severe Anemia. V. Striated and Smooth Muscle Feeding. American Journal of Physiology, 1926, 79, 260.

Whipple, G. H., and Robscheit-Robbins, F. S. Blood Regeneration in Severe Anemia. VI. Influence of Kidney, Chicken and Fish Livers, and Whole Fish. American Journal of Physiology, 1927, 79, 271.

Whipple, G. H., and Robscheit-Robbins, F. S. Blood Regeneration in Severe Anemia. VII. Influence of Dairy Products in Hemoglobin Production. American Journal of Physiology, 1926, 79, 280.

Whipple, G. H., and Robscheit-Robbins, F. S. Simple Experimental Anemia and Liver Extracts. Proceedings of the Society for Experimental Biology and Medicine, 1927, 24, 260.

Whipple, G. H., and Robscheit-Robbins, F. S. Blood Regeneration in Severe Anemia. VIII. Influence of Bone-Marrow, Spleen, Brains and Pancreas Feeding. The Question of Organic Iron in Diet. American Journal of Physiology, 1927, 80, 391.

Whipple, G. H., and Robscheit-Robbins, F. S. Blood Regeneration in Severe Anemia. IX. Influence of Fresh and Dried Fruits. American Journal of Physiology, 1927, 80, 400.

Whipple, G. H., and Robscheit-Robbins, F. S. Blood Regeneration in Severe Anemia. X. Assimilation and Conservation of Bile Pigment; Blood Hemoglobin. American Journal of Physiology, 1927, 83, 60.

Whitehead, R. W., and Barlow, O. W. Studies on the Anemia of Rice Disease in Rats. American Journal of Physiology, 1929, 89, 542.

Witts, L. J. Staphlyloccal Septicemia Complicating Addison's Anemia. Guy's Hospital Reports, 1930, 80, 203.

Witts, L. J. Simple Achlorhydric Anaemia. Guy's Hospital Reports, 1930, 80, 253.

Yang, C. S., and Keefer, C. S. The Response of the Reticulocytes in Secondary Anemias Following Various Forms of Treatment. Archives of Internal Medicine, 1930, 45, 456.

MANAGEMENT OF THE UTERINE CERVIX—(CARCINOMA EXCLUDED)*

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Physiologically the cervical canal is a communicating channel between the vagina and the uterine cavity proper.

The uterine cervix is the most abused tissue of the human body. First, it must cope with a multitude of organisms. It must endure the terrific grinding, lacerating trauma at childbirth. Moreover, it is neglected because of false modesty, improper treatment and last, but not least, because, even when it is the site of malignancy, there is no pain until surrounding tissue is involved, and then too often the condition is hopeless.

The endocervical mucosa is, as Cullen describes it, a "picket fence" epithelium. It is composed of a single layer of high narrow epithelial cells. The multibranched cervical glands which extend down into the stroma are lined with epithelium of like character. There is no submucosa. These glands pour out a thick, tenacious secretion into the canal which becomes disagreeably profuse in case of undue irritation. (This I shall refer to later). Non-striped muscle bundles mixed with a large amount of fibro-elastic tissue surrounding the mucosa give to the cervix its gristle-like character and yet allows distensibility and elasticity. The muscle fibers around the internal os from within out are circular. oblique and longitudinal. The tissue covering the portio-vaginalis of the cervix is of an entirely different character. It is a stratified pavement epithelium with a definite basement membrane. This layer extends out to line the vagina and into the external os where there is an abrupt transition to the columnar epithelium lining the cervical canal.

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*Read before annual meeting Nebraska State Medical Association, Lincoln, May 13-15, 1930.

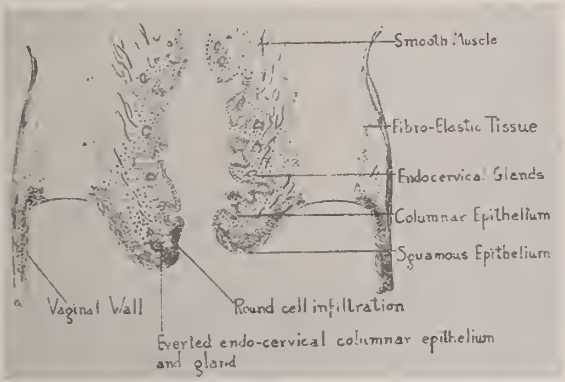

Fig. 1.

Along the gastro-intestinal and genito-urinary tracts there are sphincter or sphincter-like narrowings. At these points transitions in the type of epithelium occur. It is not unusual for the marginal epithelium at these points to be displaced into the adjacent areas in which an entirely different type of epithelium prevails. The mucosa, which has been so displaced, is exposed to chemical and bacterial irritants to which it normally has little or no resistance, and it is held that malignancy develops from these intrusions. With one exception, at the points where such conditions exist, correction can be made only by major operative procedures. Elimination of such irritative lesions—potential malignancies—can be accomplished only by life jeopardizing procedures except where the endocervical mucosa prolapses through the external cervical os, resulting in a so-called cervical erosion. The neglect of this erosion is a contributory factor in the etiology of cervical malignancy.

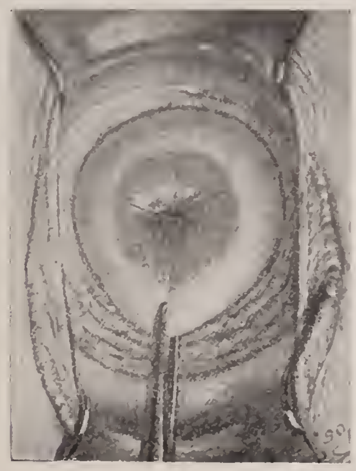

Fig. 2. Note prolapsed endocervical mucous membrane (so-called erosion).

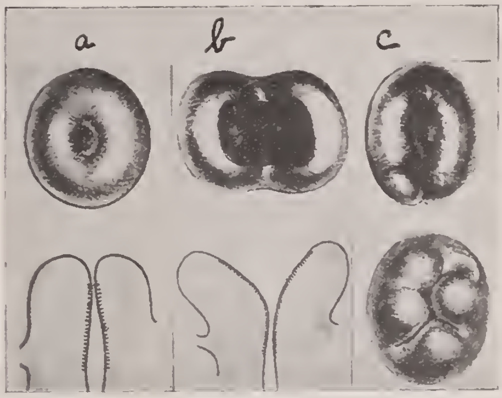

Fig. 3. (a) Diagram of normal cervix. (b) Bilateral split of cervix, exposing endocervical m. membrane. (c) Cervix after cauterization completely healed. (After Sturmdorf).

LACERATIONS—(FREQUENCY OF CERVICAL LACERATIONS)

Statistics of DeLee(1), Kelly, and Williams(2) show an average of 88% of deliveries results in a cervical laceration. Emge's(3) report shows 80%.

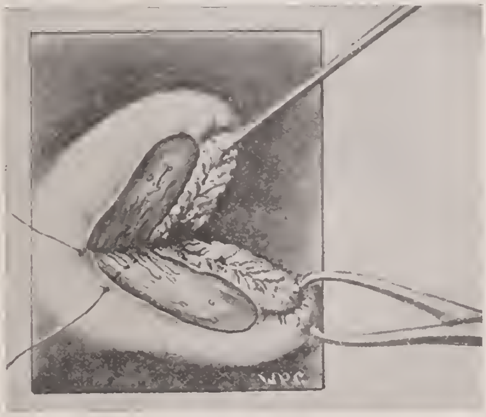

Fig. 4. Bilateral split of entire cervix, allowing direct treatment of m. membrane. (After Graves).

Dr. Grant Baldwin in a statistical review of 300 consecutive deliveries at the University of

Michigan found a palpable cervical tear occurring in 69.8% of the cases.

Norman H. Williams of Los Angeles said at the A. M. A. meeting in Portland that "of 100 women delivered through the birth canal, 86 showed unmistakable evidence of injury to the cervix". This statement was based on a study of 500 consecutive deliveries(4).

When a laceration takes place the external os becomes lax; the protecting cervical mucous plug is no longer held in place, the normally unexposed columnar epithelium of the cervical canal now becomes everted and in contact with the vaginal bacteria and other irritants. Through this portal of entry, bacteria find lodgement in the cervical glands and lymphatics, whence they invade the parametral tissues as does malignancy of the cervix. Hyperplasia of the cervical mucosa together with its glands may result. Mucus is poured out by the endocervical glands in an attempt to give protection. If the laceration is of any consequence, the discharge is sufficient to cause a leucorrhoea, which, if neglected, often results in irritation of the vagina and introitus and itching, pruritic in character, accompanied by nervousness. The laceration may heal, but still the endocervical mucosa remains everted and exposed to the vaginal irritants. The leucorrhoea continues and this eversion is referred to as an erosion and is often mistaken for an ulcer. This same prolapse of the endocervical mucosa due to laxity of the external os may result from injury to the cervix at childbirth though no laceration of note may be detected. The secretion of a diseased cervical mucosa may immobilize and destroy spermatoza, and thus cause sterility. Once the endocervical mucosa has become everted it is constantly in danger of irritation and infection and offers an ever fertile field for cancer.

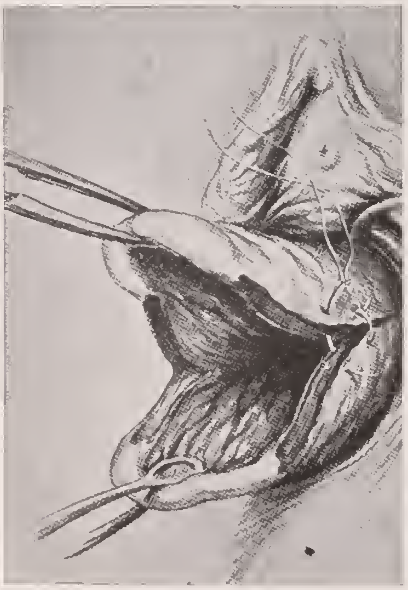

Fig. 5. Usual laceration. Note cervix forceps do not crush free cervical edge. Note suture picks up stratified epithelium surrounding cervix and the muscle layer avoiding endocervical mucous membrane.

CAUTERIZATION

Cauterization of the "eroded" cervix is now a well established procedure.

If the laceration is less than 1.5 cm. in depth the eversion can be taken care of in the office very satisfactorily with a cautery. Rarely is local anaesthesia needed. The best results are obtained by running over the entire eroded area very superficially, searing it and entering the canal for 2 cm. Entering the canal must be done with care because, if more than the epithelium is destroyed, excessive narrowing may result. Slight narrowing is desirable to compensate for the laxity of the external os and thereby prevents further prolapse of the endocervical mucous membrane and also helps to keep the protective mucous plug in place.

This treatment should never be instituted in the face of acute pelvic symptoms, including recent gonorrheal infections. Inflammations of this character respond best to palliative treatment during the acute stage, such as rest in bed, medicated vaginal packs, and vaginal suppositories followed by hot douches.

Endocervicitis may occur higher up in the cervical canal due to infections following gonorrhea, or infection following childbirth or abortion. Suitable drainage must be instituted. Light cauterization is the treatment of choice.

Bilateral splitting of the cervix throughout its entire length, as advocated by Burch(5), then cauterizing under direct vision seems rather radical, but cases of endocervicitis, that persist after the simple cauterization, should be so treated and then repaired. This method involves no destruction or removal of healthy tissue.

Cauterization of the cervix employed in conditions indicating its use is the greatest step forward in gynecological therapy in the last five decades.

Welch's statistics show that 33% of the mortalities from cancer in women begin in the uterine cervix.

F. A. Pemberton reports 669 patients seen at the Free Hospital for Women at Boston with cancer of the cervix. None ever had had cauterization and of 1,408 cauterizations none are known to have developed carcinoma. (*Am. J. Ob. and Gyn.* 17, 165-1929)(6). Robert Greenough(7) of Boston stated in a recent article reporting a large series of cases of carcinoma of the cervix that the entire series did not include one patient who gave a history of treatment of the cervix with light cauterization. It is far superior to amputation in the majority of cervical diseases. Amputation of the cervix should be avoided whenever possible. The number of complications are far too great, even in competent hands. Within two months I have seen three cases of encysted hematoma of the uterus due to stenosis of the base of the cervix following this operation. It was necessary to do a hysterectomy in each case.

Cervical polyps are best removed by the cautery.

The old laceration, if severe, and extending into the cervix over 1.5 cm. should be repaired by ordinary classic methods.

IMMEDIATE REPAIR

Dr. DeLee is reported to have observed no cancer subsequent to immediate repair, and Dr. Kelly states that "the occurrence of cancer on torn cervices is a matter of such common observation that for forty years I have been convinced that this lesion is its one common cause".

Lacerations of the cervix should be repaired immediately after delivery if conditions will permit. If you think the perineum should be repaired at once why wait seven days to repair the cervix? The patient is in no frame of mind to go back to the operating room on the seventh day. Often she refuses, and justly so. Statistics collected at one of our first-class teaching hospitals, where seventh day repair is advocated, show that out of 215 cases only 27% were repaired before leaving the hospital. Assuming that 86% of all patients delivered have lacerations, 59% of the obstetrical patients cared for at this hospital of outstanding reputation went home with lacerations with their future possibilities of maliganacy. *In my opinion this is a fair example of what happens if immediate repair is not done. If one learns to do immediate repair properly, no hospital case will go home with a laceration.* The patient will have a smoother convalescence because of less absorption, she will suffer less and have less expense.

Following is a brief description of my method of immediate repair, which I have used for two years with entire satisfaction. After a few trials you will find it simple, and your results will be more satisfactory than those following intermediate repair.

As soon as the placenta and membranes have been expelled and have been found to be complete, give pituitrin 1 c.c. and ernutin ½ c.c. or any one of the clear ergot preparations—intramuscularly, preferably high up in the deltoid. As soon as the uterus has firmly contracted the repair can be made without trouble from bleeding. An assistant should give firm pressure on the fundus—which will bring the cervix well down near to the introitus. The anterior lip, which is 1 to 2 cm. thick at this time, is grasped with a ring sponge holder or a modification of it. No other forcep will serve as well. This bite should be maintained throughout the repair. Be sure to take a liberal grasp of tissue—three or four cm. at least are necessary. The ring clamp will make a temporary harmless area of hyperemia, but no abrasion or laceration. Now the cervix is grasped about 4 cm. to one side with another ring clamp. (As one proceeds posteriorly one will note a decided thinning of the cervix). Then with moderate traction and proper light this portion of the cervix can be easily exposed to view. The forceps are moved on around the cervix, exposing about 4 cm. at a time, and when a laceration is found, it is repaired with continuous No. 1 chromic catgut. One must be sure to catch the innermost angle and obtain a very accurate approximation of the outer edge, or the final result will be disappointing. If the sutures cut the tissue, they were inserted too close to the edge of the laceration or drawn up too tightly. There will be about four fingers dilatation of the

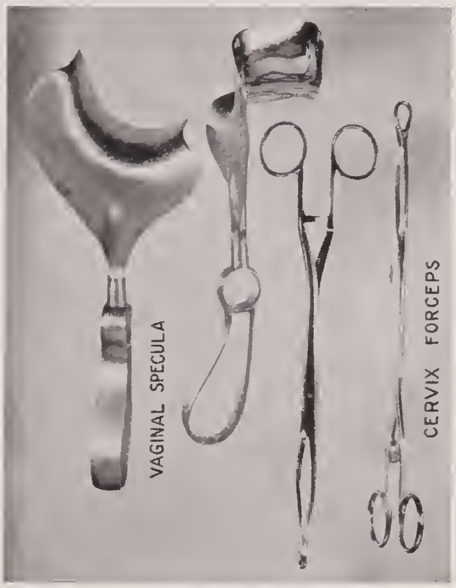

Fig. 5-a.

cervix when you complete the repair. There will be no interference with drainage.

Scars from old tears are better left untouched if they appear infected or inflamed. Usually they can be removed safely and repair made at this time.

STENOSIS

Treatment of stenosis of the cervix causing dysmenorrhoea too often gives disappointing or only too temporary results. The musculature at the internal os is in three layers—from within out—circular, spiral and longitudinal. The circular muscles are described in the French Literature by Keiffer, Fieuz, Werth et Gruslow and Frarier and by American anatomists. The cervix can be dilated and occasionally quite lasting results follow. If the patient becomes pregnant that trouble is usually at an end. But often relief is obtained for only one or two menstrual periods by the dilatation. Then someone tries the unsurgical and deplorable stem pessary—with no better results, but, on the contrary, causes protracted endocervicitis and endometritis almost incurable and of carcinomatous tendency. For eight years I have used the bilateral split of the internal os, oftentimes after several attempts have been made to give relief by other methods. Not once have the results been disappointing following the bilateral split. The splits are made with a special knife 4 mm. wide without dilatation of the cervix. Occasionally there is difficulty in passing the blade into the uterine cavity because of the stenosis, in which event dilatation is necessary. An incision about 1 cm. in depth is made on each side into the fibers of the internal os. Two months later in the office I have frequently been able to pass a sound 1 cm. in diameter without causing discomfort. I do not know, physiologically speaking, why the results are so uniformly good. It may be assumed the separation of 5 to 10 mm. on either side of the internal os is due to the retraction of the circular and oblique muscle fibers, which separation may be observed at the time the split is made. The split persists and is filled in with scar tissue thereby increasing the diameter of the internal os five to ten times, which in turn increases the orifice fifteen to thirty times. The splitting operation gives better results in the sharp antiflexion than the Dudley operation and is not deforming, inasmuch as the external os is not cut.

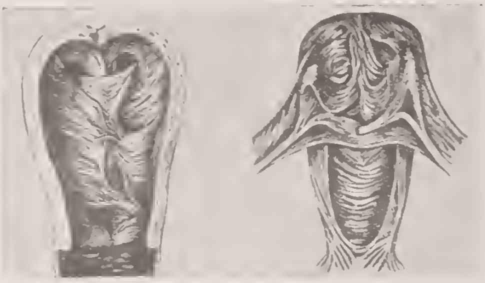

Fig. 6. Note oblique circular and longitudinal muscle fibers of cervix.

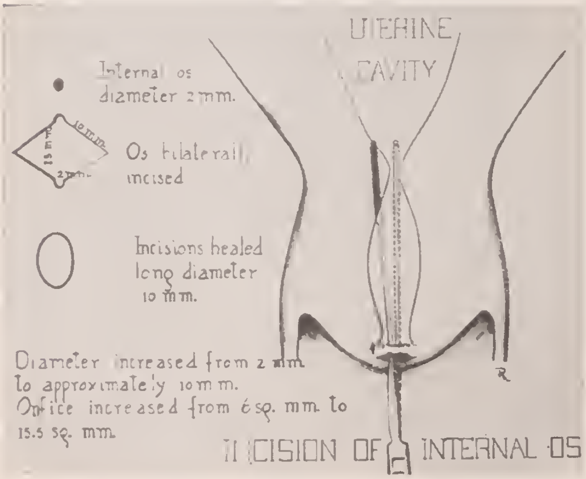
UTERINE CAVITY
Internal os diameter 2mm.
10 mm
15 mm
2mm
Os bilaterall incised
Incisions healed long diameter 10 mm.
Diameter increased from 2 mm to approximately 10 mm.
Orifice increased from 6 sq. mm. to 15.5 sq. mm.
R
INCISION OF INTERNAL OS

Fig. 7.

SUMMARY

1. Immediate repair of the lacerated cervix is preferable to seventh day repair. It can be done successfully and easily. Otherwise many lacerations are neglected or the patient is subjected to unnecessary expense and discomfort.

2. Amputation of the cervix is deforming and too often results in complications. Rarely is there indication for it, considering present-day knowledge.

3. Bilateral split of the internal os for dysmenorrhoea due to stenosis or angulation of the cervical canal will give satisfactory and lasting relief without deformity or complication.

4. Prolapsed endocervical mucous membrane or "erosions" are constantly exposed to irritants and infection, and are fertile fields for cancer. The erosion and also hyperplasia with its extensive endocervicitis can easily and successfully be relieved by light cauterization. This treatment has a prophylactic value in gynecological therapy comparable to prenatal care in obstetrics.

BIBLIOGRAPHY

1. DeLee: Am. Jr., Obs. and Gyn., Oct., 1927.
2. J. A. M. A., Oct. 5, 1929.
3. Am. Jour. of Obs., Jan., 1924.
4. J. A. M. A., Oct. 5, 1929.
5. Burch: Am. Jr., Ob. and Gyn., November, 1929.
6. Am. Jr., Obs. and Gyn., 17, 165-1929.
7. Surg. Gyn. & Ob., July, 1924.

CASE STUDIES IN GOITRE—NO. V*

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TOXIC GOITRE—INTRODUCTION

The clinical condition in which some alteration in the amount or character of the thyroid secretion gives rise to symptoms which can be summed up as exhibiting an increase or excitation of bodily function has been dignified by various names; toxic goitre, hyperthyroidism, and thyrotoxicosis being the principal ones. Also the preponderance of certain symptoms or physical signs has given rise to another nomenclature, the chief names being exophthalmic goitre when exophthalmos is present and toxic adenoma when the gland presents a lumpy appearance or feel, exophthalmos is absent, and symptoms of excitation are present.

For many years it was the general belief that from the clinical signs and symptoms the nature of the microscopic changes in the gland could be prognosticated and that, therefore, the histologic change in the gland was responsible for the type of clinical symptoms found in the individual case. Of late years, however, the liability of this prognosis to error has been recognized and it appears that it is necessary only to examine a sufficient number of sections from a given gland to find practically every form of histologic change in any gland whose function is altered. Some other method than the histologic one must, therefore, be evolved in order to understand and evaluate the multiplicity of symptoms that these cases of altered thyroid function present. Though such a method does not at present satisfy all the criteria of scientific proof and does not at all explain the nature of the chemical or metabolic change or changes going on in the altered thyroid it does afford a working basis upon which the clinician can found his opinion as to the condition of his patient and aid him to determine what form of treatment is indicated at the time he sees the patient.

Alteration in thyroid function of an excitatory character causes two different sets of symptoms.

First: A syndrome due to increased metabolism of the body in general; and Second: Symptoms due to the action of the altered thyroid secretion upon the autonomic nervous system resulting in changes in the various organs activated by that system.

It is important to remember that these symptoms of toxicity occur in waves, each wave consisting in (a) a period of increasing toxicity; (b) a period of maximum toxicity, maintained for a variable length of time; and (c) a period of declining toxicity in which the individual, though improved, never reaches the condition of normality present before the onset of the attack and each recurrent wave of toxicity leaves the patient just so much further removed from normal.

It may be well to mention at this point that the objects of treatment must be, therefore, (1) to shorten the period of toxicity by initiating the receding phase of the toxic wave, and (2) prevent the occurrence of future waves.

I. The symptoms of increased metabolism are:
  Increased perspiration.
  Increased pulse rate.
  Increased appetite with loss of weight.
  Slight tremor.
  Panting respiration on slight exertion.
  Increased flushing of skin and eyes.
  Increased basal metabolic rate as tested in a resting stage by oxygen consumption.

II. The symptoms of disturbance in various organs are:

1. Exophthalmos.
2. Cardiac manifestations.
3. Gastro-intestinal crises.
4. Diminution or absence of free hydrochloric acid in the stomach contents.
5. Decrease in the relative polymorphonuclear leucocytosis.
6. Tremor.
7. Increased nervous irritability at times leading to delirium.
8. The different types of enlargement of the thyroid gland itself.

Aside from subdivisions (1) (2) and (8) the above symptoms are self explanatory. Subdivision (8) will be considered as the different types of gland are described in individual cases. The general characteristics of subdivisions (1) and (2) may well be taken up here.

1. Exophthalmos. The exact mechanism by which this physical sign is produced is not fully determined but it can be stated that it is due to the action of the altered thyroid secretion upon the cervical sympathetic system. It begins as a unilateral change as a rule and the change, though soon bilateral, is rarely symmetrical, that in one eye being more marked than that in the other.

Exophthalmos may be divided into three main types.

a. The "sleepy or crying eye" type, in which the upper lids appear swollen, are difficult to evert and, as a rule, the conjunctiva is suffused. (Gifford). (See Fig. 1).

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b. The "starey or fear eye" type. In this type there is a marked staring expression without marked bulging of the eye balls. The patient appears surprised and fearful. (See Fig. 2).

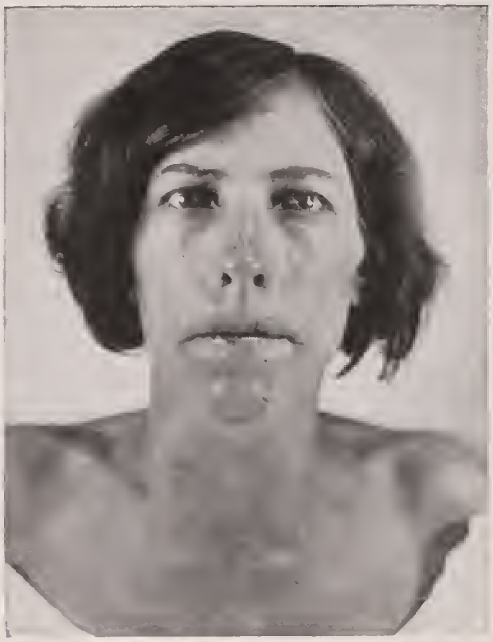

Fig. I. "Sleepy eye" exophthalmos. Note the apparent thickening and overhanging of the tissue between the eyebrow and margin of upper lid and the suffusion of the eye ball.

c. The "pop eye" type in which the eyes seem to be popping out of their sockets. (See Fig. 3).

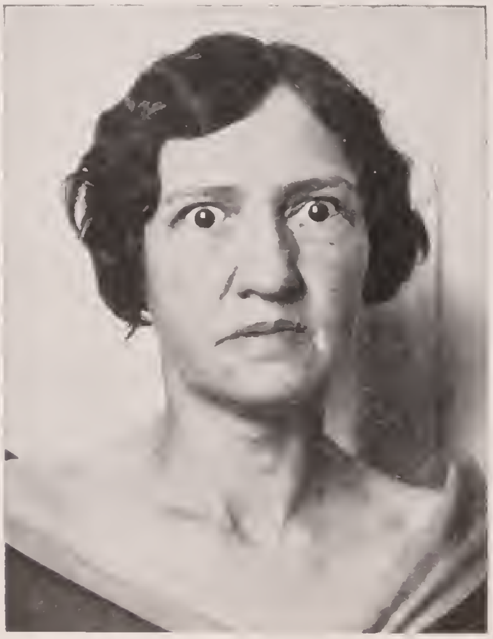

Fig. II. "Starey eye" exophthalmos. Note the staring and "fear" expression with protrusion of the eye ball.

The principal symptoms of exophthalmos aside from the general appearance are:

Widening of the palpebral fissure. (Stellwag).

Failure of the upper lid to follow down. (Graefe).

Sudden raising of the upper lid on up motion of the eye.

Sclera showing above the iris.

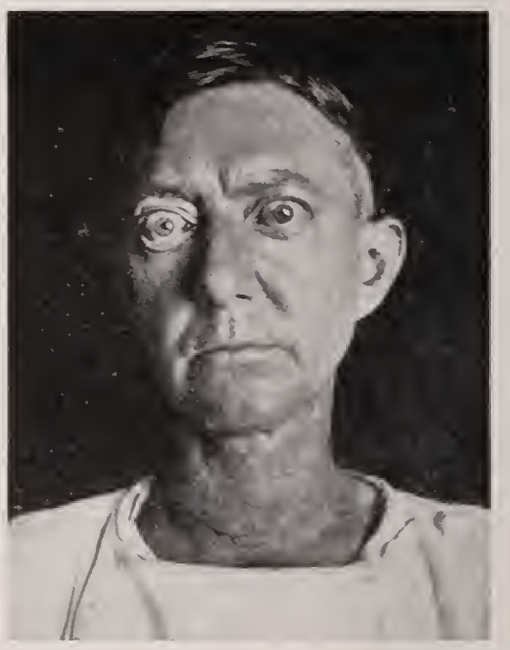

Fig. III. "Pop eye" exophthalmos. Note that the eye balls appear to be protruding from their sockets. Sclera shows both below as well as above the iris. Note, also, that palpebral fissure is much wider on the right than on the left side.

2. The cardiac manifestations are likewise due to action of the altered secretion of the thyroid upon the sympathetic nervous system through the cervical and thoracic cardiac nerves and usually

a. Begin as palpitation going on to

b. Tachycardia and dysponea.

c. Fibrillation and flutter.

d. Myocardial changes.

e. Cardio-vascular accidents such as embolus, infarct, or thrombosis.

f. Murmurs are heard over the heart, bruit over the thyroid gland and there is a marked arterial pulsation throughout the body.

In subsequent articles an endeavor will be made to illustrate by individual cases the various symptoms that have been discussed.

WAS ONE OF THEM

Tommy: Mother, let me go to the zoo to see the monkeys.

Mother: Why, Tommy what an idea! Imagine wanting to go to see the monkeys when your Aunt Betsy is here!

OUCH!

"If you haven't a doctor," said the tourist at the wayside inn, "what happens when any one is taken seriously ill?"

"Oh," replied the proprietor, "they just die a natural death."

AMEBIASIS CUTIS—WITH REPORT OF A CASE

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Engman and Heithaus in the *Journal of Cutaneous Diseases* for November of 1919, page 715, describe the first case of this very rare disease ever described in the United States. Their case was in a young person who died shortly after treatment was established and so there was but little in the literature concerning *Amebiasis cutis* at the time that our case came to us. The disease is one produced by the *endameba histolytica* which is the same organism producing amebic dysentery. Within the past few years there has been a marked increase in cases of amebic dysentery in the United States, there being but few states which are free from having reported a case. Many of these cases come from California and there is, as a rule, no time when there is not a case somewhere within the borders of that state. The organism itself is easily found in the stools of people having amebic dysentery. It is usually obtained from these patients after giving them a dose of epsom salts following which a thin stool containing mucous is passed. As soon as the stool is passed one should get a specimen, place it upon a warm slide and get it under the microscope and by the use of a dental drying bulb you will be able to keep the slide warm enough so that the ameba will show active movement and project its pseudopodiae in all directions. The organism can be grown in two different ways. Perhaps the simplest method of cultivation, but not the most certain, is to plant the organism on ordinary agar slants and cover with Ringer's solution. Incubate for forty-eight hours and your amebae will be found at the junction of the agar slant and the Ringer's solution. The most certain way to obtain growth, and the generally recognized one, is the method of Boeck. In this method four eggs are broken into a sterile flask containing beads and shaken with fifty cc of sterile Locke's solution. Slants are made in sterile test tubes and inspissated at seventy degrees Centrigrade and autoclaved at fifteen pounds pressure for twenty minutes. The slants are then covered with ten per cent ascitic fluid in Locke's solution or one may use diluted egg albumin in either Locke's or Ringer's solution. This medium is inoculated with a loop full of feces containing the *endamebae*. Incubate for forty-eight hours and your organism is found at the junction of the Boeck's media and the Ringer's solution. There are various methods of staining the organism. It can be stained with a one per cent acqueous solution of methylene blue or it can be stained by the iron hematoxylin method. Vital staining can be done with the iodine reagent used in a gram stain.

The infection in the skin probably comes from direct contact with a broken skin area and the organism, being of the anaerobic type, immediately burrows under the edge of the wound so that it can grow away from any oxygen. In our case the history reads:

"Mrs. A. S., Madison, Nebraska, age fifty-nine, of German parentage and a farm woman, came to see one of us (G.M.H) on May the thirteenth, 1930, with peculiar appearing ulcers on the anterior aspects of both legs. These ulcers had been present for about ten days. Some few days before their appearance she stated that she had been cleaning out a blackberry patch on her farm and had had several blackberry thorns stick her at various points on the legs and she was of the opinion that it was an infection due to the blackberry thorns. She had used several types of ointment and other home remedies prior to seeing the doctor under which regime there was no improvement but rather a gradual increase peripherally in the size of the ulcers. They were not particularly tender or painful but the margin of each ulcer showed a blackened, almost gangrenous appearance which would lead one to believe that as the organism burrowed further under the skin the toxine produced literally burned the skin area behind. Regardless of treatment they seemed to continue to grow and she was hospitalized on the nineteenth of May, 1930, when we both took her in charge. At this time the ulcers had increased materially in size, were perfectly round with rather a punched out appearance and a wide necrotic overhanging area extending over the face of the ulcers, under which there was quite an accumulation of pus and epithelial debris. The open part of the ulcers was distinctly the color and appearance of raw beef and was covered with rather a dirty purulent discharge at the time. Outside the ring of the ulcer was a slightly raised, bluish area looking as though there might be pencil lead in the skin. This ulcer did not extend deeper than the skin and neither bone, muscle or fascia was involved. In some ways the ulcer resembled some of the severer types of bromide eruptions. The ulcer on the left leg was much larger than the one on the right. It was at this time that we learned that one year previously she had had an ulcer which she said greatly resembled these, on her abdomen and which was surgically removed. We also discovered that both before her first ulcer and these ulcers, she had had an apparently causeless diarrhea which came on about five days before the appearance of the ulcers. This diarrhea was painless, was of a thin, watery consistency and contained considerable amounts of mucous. We made several slides of the purulent exudate from these ulcers and were unable to locate any organism which might be the causative factor in their production.

After she had been in the hospital some three or four days she again had a slight diarrhea and upon getting a specimen on a warm slide the amebae were plainly discernable. We planted several cultures from the face of the ulcer but were not rewarded with any growth which would warrant the diagnosis. We did, however, make this discovery, that after the necrotic edge of the ulcer was trimmed off, the inflammatory process and the destruction seemed to extend that much further and more rapidly. The photographs shown in Figure 1 give a fairly good idea of the appearance of these ulcers at that time. About one week from the time that she was hospitalized we made a tentative diagnosis of Amebiasis cutis and Dr. C. C. Tomlinson of Omaha was called to see the case. This woman's blood picture was normal except for a slight diminution of hemoglobin, her red cell count being 3,800,000, her white cell count 10,350 with 73% PMN's. Wasserman was negative. Dr. Tomlinson gathered a large amount of the material taking it back with him to the University laboratory in Omaha and injected several guinea pigs with it. As the terrifically hot weather with which we suffered in Nebraska in 1930 came on at about this time our guinea pigs all died and were of no value in determining the result of their inoculations. It was Dr. Tomlinson's opinion at that time, he having seen Engman's case in St. Louis, that we had a case of Amebiasis cutis. The only treatment which she had received up to this time was merely keeping the ulcers clean with normal saline solution, washing the faces of the ulcers with an irrigator. At this time we placed her upon emetin, ½ grain intramuscularly three times a day for four days and twice a day following. The ulcers began to show improvement in that the extension stopped and the necrotic area began to separate. At no time was any other local treatment used except the salt solution which occasionally we followed with ST 37 applied with a swab. We continued our emetin up to the point where she began to get definite nervous symptoms, principally shown by inability to control the muscles of the arms and legs and some difficulty in swallowing. The ulcers by this time had lost their necrotic tissue and the edges began to appear healthy with no gangrenous or necrotic overhang. The lady remained in the hospital from May 19th to June 30th and, when she finally left, had a clear granulating surface over the area formerly occupied by the ulcers.

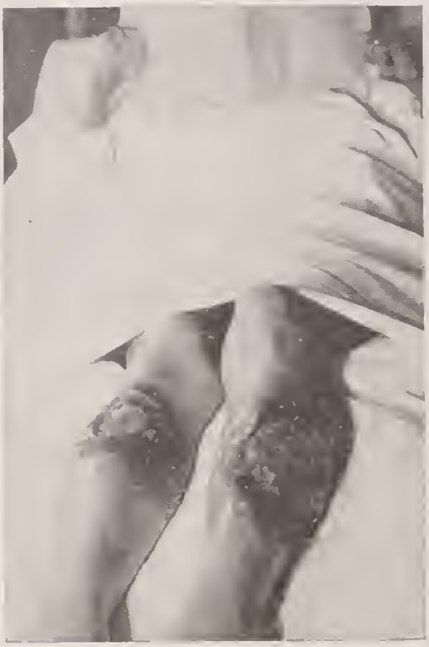

Fig. I. About June 1.

We advised her at that time to have a skin graft to cover these enormous denuded areas which she refused to have done, apparently desiring to have them heal by granulation than by any quicker method. She returned to Dr. G.M.H. on August 7th who has since treated her along the same line which we used in the hospital and who also used Stovarsal, one tablet T.I.D. for twenty-five doses with no appreciable effect. As the doctor only saw her occasionally he dressed these ulcers with perforated Cilkloid dressing and kept them clean. In Figure 2 the ulcers show a complete filling of the punched out area with granulation tissue and healing beginning at the periphery and coming toward the center. The same treatment was continued with no return to emetin because of the fear of the toxic action of the drug. Figure 3 are photographs of the ulcers as they now appear wherein the healing process is distinctly shown in both instances, the skin replacement in the area which was formerly an open ulcer, creeping further and further toward the center. This patient will undoubtedly make a recovery in time which would have been markedly hastened by the use of a few Thiersch grafts.

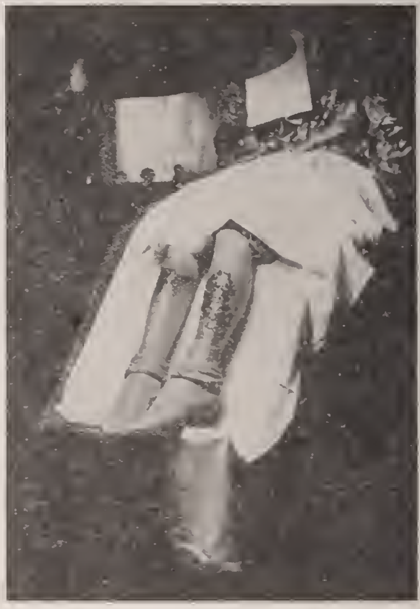

Fig. II. Sept. 11.

While this case did not conform in many ways to the essentials required for the perfect diagnosis we report it was a case of *Amebiasis cutis* and contend for the correctness of our diagnosis upon the therapeutic result. This patient had nothing but emetin for the purpose of the control of the disease and we did find the *amebae* in her stools. She is at this time in apparently good health except for the areas on her legs which have not yet been covered with skin.

Amebic infection of the skin, while it is deciddly unusual in this country, has been known to ppear following various conditions wherein the *endameba* was involved, in Egypt, China and some ports on the Mediterranean.

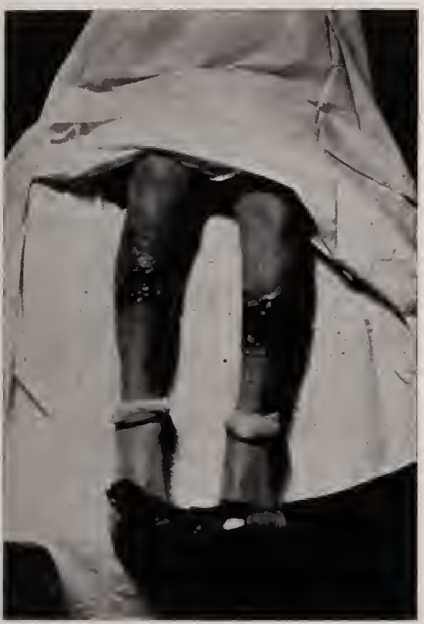

Fig. III. October 25.

We have seen one report from Cairo where, following the removal of a gallbladder, because of an amebic infection the skin around the drainage tube became involved and and *Amebiasis cutis* resulted.

A second case coming from the interior of China showed an amebic infection of the skin around the scar of an appendiceal operation where drainage was necessary and where the individual had an amebic infection of the gut. *Amebiasis cutis* is a condition which should be born in mind when the history given is such as was the history of this lady with the development of the ulcerated areas which she showed us at that time. Care should be used in the administration of emetin as it is a gastro-intestinal irritant, can depress and in fact almost paralyze a heart and does have a distinct effect upon peripheral nerves such as one finds in the wrist and toe drop of lead paralysis. The first sign of an over dosage of emetin is a difficulty in swallowing, which sign should be promptly regarded as serious and the drug discontinued.

ACHLORHYDRIA AS AN ETIOLOGICAL FACTOR IN VITILIGO, WITH REPORT OF FOUR CASES

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Bancroft, Nebr.

Absence of hydrochloric acid is not mentioned in textbooks on dermatology as an etiological factor in vitiligo. Recently, however, several investigators have commented on its absence in this disease and have even gone so far as to say that vitiliginous areas are indications of achlorhydria. That it may be the primary factor, is a possibilty and the report of the following cases seems to favor this theory.

Having been a victim of this malady since the age of twenty. I have been more than casually interested in its manifestations. That there may be a hereditary influence connected with it is also possible as my father also had the disease.

Case I. The lesions first appeared on the back of the hands, gradually spreading, during a number of years, over the entire body. The face was the last place involved, even the mustache finally losing its pigment before the other hair of the scalp.

My general health had always been good until six months after my discharge from the army in 1918. At that time I began to suffer with griping pains in the abdomen, distension, and weakness in the lower extremities. A thorough examination by Dr. Leroy Crummer of Omaha, disclosed absence of free HCl in the stomach contents. I took diluted HCl after meals intermittently with rather indifferent results. In 1924 a test meal and complete examination by Dr. Adolph Sachs, Omaha, showed achlorhydria the only abnormality present. In 1925 the same condition existed. From this time on dilute HCl was taken regularly in 15 m doses after each meal. By 1927 all the vitiligious areas had completely disappeared from the entire body surface and up to the present time have shown no recurrence. A test meal, given Dec. 4, 1930, showed no presence of free HCl. At no time have blood examinations shown any abnormalities of the red cells or any deviation from the normal in the white cells. The reflexes have always been normal. The blood pressure, however, has never been above 124 systolic or below 70 diastolic. The urine has always been negative.

It would be an interesting experiment to see if discontinuance of the dilute HCl would bring recurrence of the vitiliginous areas. But the disagreeable symptoms of griping, abdominal pains, eructations, and weakness absolutely preclude thought of experimentation.

Case II. Mrs. J. R., age 40, began to have vitiliginous areas over the dorsal surfaces of both hands five years ago. During the next two years the lesions gradually spread over the arms and finally the entire body was involved. A test meal three years ago showed achlorhydria. All other findings were negative. She was given dilute HCl after meals and two years later no trace of the leukodermic areas were present.

Case III. Mrs. M., age 25. The vitiliginous areas first appeared at age of 17 on the back of the hands. They gradually extended over the body during the last few years. Fractional test meal showed average free HCl of 8%. Took dilute HCl after meals and a year later the spots were not nearly so pronounced, nor had any new ones developed in other parts of the body.

Case IV. One of my professional friends has had the disease for a number of years. On account of our mutual dermatological blemishes we frequently compared notes. Frequent test meals over a number of years have shown absence of free HCl in the gastric contents. He also has taken dilute HCl regularly after meals the last few years and his lesions have all disappeared.

The chief requisite is a potent dilute HCl. As a result of ten years of experience in taking acid I have become somewhat of a connoisseur and am able to tell by the color and taste whether the acid has the necessary properties to aid digestion. Acid that has a yellowish color has lost its potency. And HCl made by adding a stronger acid to some plain water does not have the required properties of dilute HCl made for medicinal purposes. I have also had the experience of having my druggist order a pint bottle of dilute HCl from the wholesale house which when tested would not even color blue litmus red. It is self evident that an acid of this kind has no benificial effect. I therefore have my druggist order dilute HCl *for medicinal purposes.* On my various business or professional trips have tried as many as half a dozen drugstores in succession before securing an acid that had the above requirements. This was the acid used in the above cases.

I have been unable to find reports of cases in any medical literature that were benefited by any drugs heretofore proposed for the treatment of this disease.

PALEOPATHOLOGY*

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Definition: Paleopathology is the science of the diseases of ancient and extinct organisms.

These studies are of necessity, in large part, confined to hard structures such as bones, shells, supporting framework, and hard integument, as these are the parts most often fossilized. It is rare that soft parts of animals are found in such condition as to permit study. There is an exception to this in some human remains which have been preserved by mummification, and occasionally both human and lower animal remains are found preserved by natural conditions in such a manner as to permit more or less complete study of the softer tissues. Petrified plant material is often found and many conditions of disease are shown there.

The accompanying chart which has been compiled from Moodie and various other sources is shown as a short outline and review of geology and paleontology and will serve to revive hurriedly our knowledge of the subject. The time periods are those usually assigned; the upper being that based on calculations of rates of deposition, erosion, ocean salt content, etc., while the figures in ( ) are the results of calculations on radio-activity.

No evidences of life are found in the Archeozoic Era, but unicellular and very simply organized multi-cellular organisms are found in the Proterozoic Era. During the Proterozoic Era we find distinct evidences of symbiosis which in turn is apparently followed by parasitism; and in this we find the first true evidences of disease conditions. Symbiosis is where two organisms are living together to their mutual benefit, and Parasitism is where two organisms are living to-

Era	Periods	Dominant Life	Evidences of Prevailing Diseases
Era	Periods	Dominant Life	Evidences of Prevailing Diseases
Psychozoic Age of Man	Recent 30,000 yrs. (500,000 yrs.)	Those animals and plants now in existence or but recently extinct.	Those diseases now known.
	Pleistocene 500,000 yrs. (2,000,000 yrs.)	The human race developed most of its present characteristics. The large mammals as Camels, Elephants, Bison, Horse, Tiger, Wolf, Ape, and others reached their highest point of development.	Fractures, simple, compound, infected. Periostitis. Osteomyelitis. Osteitis. Osteoma. Dental Caries. Dental deformities. Pyorrhea. Arthritis of both productive and destructive types.
Cenozoic Age of Mammals	Pliocene 500,000 yrs. (2,000,000 yrs.)	Ancient horse. Camels. Rhinoscerous. Mastodon and other elephant types. Deer. Hippopotamus and other extinct species.	Fractures, simple, compound, infected. Periostitis. Osteomyelitis. Osteoma. Dental deformities. Arthritis of both productive and destructive types. Actino-mycosis and other fungus diseases.
	Miocene 900,000 yrs. (10,000,000 yrs.)	Primitive horses. Camels. Cattle. Apes.	Fractures. Dental diseases, and deformities. Septic types of bone and joint lesions. Productive Osteo-arthritis.
	Oligocene 1,300,000 yrs. (16,000,000 yrs.)	According to Osborne the human stem branched from lower mammals during this period in the form of a lemuroid. Other authorities place this branching in the miocene or Phiocene. Rhinoscerous. Primitive cats and dogs. Titanotheres.	Dental diseases and deformities. Fractures, and other traumatisms. Osteomyelitis. Osteoma. Osteitis. Osteo-arthritis of various types.
	Eocene 1,500,000 yrs. (20,000,000 yrs.)	Primitive mammals as Titanotheres. Ancient Rhinosceri, etc. The rise of modern mammals began during this period.	Dental diseases and deformities. Fractures, and other traumatisms. Osteo-arthritis, both productive and destructive types. Osteomalacia.

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*Read before the Nebraska State Medical Association, annual meeting, Lincoln, May 14, 1930.

A transition period of unknown length intervened between the Mesozoic and Cenozoic Eras. It is known as the Epi-Mesozic interval and is marked by the rise of the Archiac Mammals.

Mesozoic Age of Reptiles	Cretaceous 6,100,000 yrs. (65,000,000 yrs.)	The large reptiles were the dominant type in the earlier part of this period, but became extinct near its end. Dinosaurs. Toothed birds. Large bony fishes. Small mammals.	Osteoma. Exostoses. Dental diseases and deformities. Septic bone and joint lesions. Pyorrhea. Periostitis. Osteomyelitis. Arthritis Deformans. Angioma. Parasitisms.
	Jurassic 3,000,000 yrs. (35,000,000 yrs.)	Birds. Flying reptiles. Turtles. Ganoid fishes. First mammals.	Inflammatory bone and joint lesions, probably traumatic. Opisthotonous. Pleurothotonous.
	Triassic 3,500,000 yrs. (40,000,000 yrs.)	Reptiles. Amphibians. Marsupials. Fishes. Mollusks. Insects.	Inflammatory bone and joint lesions. Dental diseases. Conditions suggesting Meningitis.

Here occurred a period of unknown duration called the Epi-Paleozoic interval which was marked by the extinction of many pre-existent species.

Paleozoic Age of Amphibians, Fishes, and Invertebrates.	Permian 3,500,000 yrs. (25,000,000 yrs.)	Insects. some of which are of modern types. Amphibians. Reptiles.	Traumatisms. Fractures. Parasitism. Caries in bone. Dental Caries.
	Carboniferous 6,750,000 yrs. (85,000,000 yrs.)	Period of coal deposition. Abundant plant life, mostly of Ferns and allied forms. Protozoa. Corals. Worms. Insects. Echinoderms. Mollusks. Fishes. Amphibians. First reptiles.	Traumatisms. Fractures. Parasitism. Fungus conditions. First evidences of infections as now understood appear in this period.
	Devonian 4,600,000 yrs. (50,000,000 yrs.)	First land vertebrates. First land flora. Armored fishes. Lung fishes. Insects. Crustaceans. Worms. Corals. Echinoderms. Mollusks.	True parasitism. Traumatisms. Aberrant growths, as hypertrophy of parts in both fauna and flora, cause as yet undetermined.
	Silurian 4,200,000 yrs. (40,000,000 yrs.)	First airbreathers. (Scorpions). Lung fishes. Sponges. Crinoid Starfishes. Crustaceans. Mollusks. Trilobites.	Traumatisms. Parasites.
	Ordovician 4,800,000 yrs. (90,000,000 yrs.)	First armored fishes. Corals. Trilobites. Crinoids. Mollusks. Many thousand species of invertebrates.	Traumatisms. Parasites.
	Cambrian 5,200,000 yrs. (70,000,000 yrs.)	Brachiopods. Trilobites. Corals. Sponges. Protozoa. Mollusks. Algae. No land plants or animals are known.	Communison or Symbiosis apparently developing into parasitism in some cases.

The Epi-Proterozoic Period occurred and was apparently of great length but little is known of it as yet.

Proterozoic	Algonkian 13,000,000 yrs. (200,000,000 yrs.)	Primitive marine invertebrates. The oldest known fossils. Worms. Radiolaria. Bacteria.	Symbiosis apparently followed by Parasitism, though no definite disease state is known.
	Neo-Laurentian 46,000,000 yrs. (220,000,000 yrs.)	No fossils have been found in this period, though very simple unicellular life probably existed as shown by certain limestone deposits.	
Archeozoic	Paleo-Laurentian 46,000,000 yrs. (1,600,000,000 yrs.)	There is no evidence that any life existed during this period.	

gether, the one to the detriment of the other. Thus it will be seen that the origin of disease may be reducible to comparatively simple terms.

In the Cambrian Period of the Paleozoic Era the more complicated invertebrates are beginning to develop and among them are found evidences of Parasitism; evidences of traumatisms are also found in this period but are comparatively infrequent. During the Late Cambrian and Ordivician Periods the simple vertebrates developed and these were followed by the more complicated fishes in the Silurian Period. In the Silurian Period the first air breathers developed. Followed the Devonian Period with the first definite evidences of land vertebrates, some of which show evidences of fractures, parasitism, and other diseases. In the Carboniferous Period of the Paleozoic Era there was a change in disease conditions from the earlier periods in that the most recent bone infections appear. Incidentally it was in this period that the coal beds were laid down and many evidences of plant pathology are found. One such is shown in this collection.

In the Permian Period of the Paleozoic Era we find the beginning of diseases as they are definitely known. At this time is known for the first time the fracture of bone with true callus formation, caries of bone, and dental diseases and deformities.

In the Triassic Period of the Mesozoic Era we find many cases of fracture with callus, fracture with infection, dental diseases and bone necrosis.

In the Jurassic and Comanchean Periods of the Mesozoic Era are found many conditions bearing a close resemblance to, if not identical with, modern diseases. In this collection is the ulna of an ancient reptile with a typical septic osteo-arthritis. This condition is probably the result of traumatism with invasion by the usual infective organisms. In the Cretaceous Period of the Mesozoic Era are found various types of dental diseases and deformities; dental caries, pyorrhea, impactions, and deformities; osteoma; exostoses; fracture and callus; fracture and infection; and osteo-arthritis.

Coming to the Cenozoic Era we find in the Eocene Period that dental diseases of the types previously mentioned are quite common and that osteomalacia and other nutritional diseases are apparently becoming evident, as is arthritis of the productive or arthritis deformans type. In this collection there is an excellent specimen of this type of arthritis from the giant hog of the Oligocene Period, and in this period various types of joint and bone infections seem to be common. In the Miocene and Pliocene Periods of the Cenozoic Era are found practically all of the diseases at present known; the various dental diseases; fracture, simple, compound, and infected; bone tumors, osteitis; periostitis; osteomyelitis; productive arthritis or arthritis deformans; destructive arthritis or the septic or tuberculous types of arthritides; actinomycosis; and other lesions.

The Psychozoic Era is divided into two periods; the Pleistocene and the Recent. It had been generally thought among biologists that the human stem arose during the Pliocene or Miocene Periods and reached practically its present condition in the Pleistocene Period; but Osborne has recently given some good reasons for thinking that it arose as far back as the Oligocene Period. The division between the Recent and the Pleistocene Periods is rather indefinite and varies with different writers. Some are inclined to place the beginning of the Recent Period at the time that evidences of human culture are found, some twenty-five to thirty thousand years ago, concomitant with or following the last glacial recession, and this view is probably the most sensible and convenient one. The fact is that we are now living in an "Inter-glacial period" and one that will probably come to an end some day with another glaciation.

The human race existed in considerable number and with a low grade of culture during the Pleistocene Period as is proven by the many findings of their remains and kitchen-middens in Europe. Recently Harold Cook, J. W. Lytle, and others have found abundant evidences of American humans in the Pleistocene deposits in Oklahoma, Arkansas, and New Mexico, and certain questionable remains have been found in Nebraska and other states. The disease conditions in the Pleistocene and early Recent are exactly similar to those now existent. For instance, we have a series of human vertebrae, early Recent or Late Pleistocene, which show arthritis deformans. This condition is common also in remains of the lower animals of this and preceding periods, in both carnivores and herbivores.

Contrary to general opinion it seems that bone and joint and dental lesions have occurred in the human race throughout all of its existence. These conditions are found in the mummies of Egypt and South America, and the United States. Those from the Mesa Verde country of Colorado and New Mexico have a great variety of dental and joint and bone lesions and there also occurs a number of cases of osteoma of the frontal bone. We have here some roentgenograms from the Mesa Verde remains which show dental and sinus pathology. So far as I know these remains have not been studied intensively from a pathological standpoint, a study that should be carried out and should be fruitful of good results. In fact the whole field of paleopathology has been sadly neglected.

The extinction of large animal groups has long been a puzzle to paleontologists and it is reasonable to suspect that epidemic disease conditions played a large part in this tragedy. The horse, the camel, the sloths, the saber-tooth tiger, the rhinocerus, the elephants and other large groups of animals reached their prime in the Pleistocene Period in America and then disappeared wholly from the landscape, some to extinction and some to appear on other continents. Some migrated as individuals or in a body, but certainly not all of them, others were killed by climatic changes, though as they were not fixed in place and the climatic changes came on slowly they could have followed the season as do some animals even today. Even now many of the Pleistocene species or their descendant species are in existence. Is it not reasonable to suppose that epidemic disease which left no evidences in the fossil remains, that is disease of the soft tissues, played a large part in extinction of such notable tribes of animals? Such an epidemic added to climatic changes, changes in food supply, overspecialization, and inability of the species to adapt themselves to changing conditions, would go far toward explaining extinctions that the other factors do not completely explain.

In another part of this paper we mentioned the origin of disease. It is well to give some thought to this matter; it is known that symbiosis existed in very early geological periods, the Proterozoic Era. This was soon followed by parasitism, or a disease condition. These animals were very simple in structure, one celled or simple multi-cellular invertebrate organisms and it is readily seen that their parasitic characteristics might be engrafted upon their descendants, and that when they came into the Age wherein more complicated organisms developed it would be possible for them to cause the conditions which we know as diseases. In other words that the evolution of disease producing organisms was concomitant with other organic evolution and that disease is due to a process of evolution or development extending well back toward the beginning of life on the earth. These organisms may be said to almost achieve immortality, for their reproduction is by fission and this process may have been going on since the beginning. So far as we can see it is not as yet possible to go back to the beginning of disease, for disease conditions certainly existed before there are any evidences now obtainable from fossils. The time may come when we can say with authority that "here is the beginning of disease in the history of the earth", but that time is not yet. We do know though that disease conditions such as we now contact daily existed many hundreds of millions of years ago, and it is but natural that we should suspect that the same conditions caused them then that do now.

This brings us to the consideration of a widespread fallacy. That is that there is such a thing as a "Natural Life" or such a possibility as "Return to Nature" by which a human can attain health and longevity. Our investigations show so plainly that disease conditions have existed ever since organisms of sufficient complexity to leave traces have been in existence that such an opinion appears groundless. Whenever one organism lives at the expense of another, just then we have a disease condition to consider. This is true whether the organism is the tubercle bacillus or the tape-worm living in man today, or a fungus or a worm living at the expense of a tree in the Carboniferous Period. Furthermore, the most ancient, the middle period, the modern, of animal life; the most savage, the partly civilized, and the most highly civilized, of mankind; give evidence of suffering from the same general types of diseases. There are of course variations in types, and there are mutations in organisms, so that different effects may be seen in specific cases, but the general trend is the same throughout all history, whether written on paper or in rocks.

There seems to be scant racial immunity developed to infective organisms, at least to the septic bacteria in all geological history as these conditions exist throughout. This observation also applies to productive osteo-arthritis of arthritis deformans type, to other bone and joint lesions, and possibly to other conditions.

In the human race records of mental trends are indelibly written in the superstitions, customs, and folklore, of the race. There is a field of paleopathology in mental conditions as distinctly as there is in physical ailments.

Our conception of disease must undergo a change. We are still, consciously or unconsciously, permeated with the idea that the earth was created for man. This is a mistake, the earth was not created for any species or race, but each in turn has had its dominance. The human race is dominant in the present era, the Psychozoic; and others as aforementioned have been dominant in other eras. (compare chart)

The mere fact that one organism is antagonistic to another, as is the typhoid bacillus to man, does not mean a violation of a law of nature, but is rather an affirmation of that law. Any other attitude of mind bespeaks as illogical reasoning as that of the great orator who lifted a glass of water from the table and said: "I here overcome the law of gravity". In reality he overcame one line of the force of gravity and demonstrated the law.

The so-called laws of nature are not legislative enactments nor are they supernatural edicts. They are simply the statements of conclusions logically reached after the observation of a long series of facts of nature. Considered as such these conclusions are subject to re-affirmation, to revision, or to being dropped, as further facts are developed or better reasoning is used. It is sometimes said that "nature is cruel" or "nature is kind". Neither statement is true, Nature simply pursues her course wholly indifferent and oblivious to the interests of the individual or the race.

Again I make a plea for the study of this sadly neglected subject; it is broad in its scope and should be studied with the same interest and deep thought that we bestow upon comparative anatomy and comparative physiology, for after all it is but a subdivision of biology and of comparative pathology. It is worthy of a grant to some specially trained student who will devote much of his time to it. Dr. Roy L. Moodie is now continuing his work in Pleistocene material at the Los Angeles Museum, but many other students can carry on this work with profit. The work that has been done here has been a hobby incidental to the practice of medicine and under such circumstances it necessarily cannot produce the results that one would wish.

SCURVY IN ADULTS

The relative rarity of scurvy in adults and the greater frequency of other diseases characterized by hemorrhage leads often to a tentative diagnosis of purpura hemorrhagica, symptomatic purpura, hemophilia, anemia, leukemia or sepsis before scurvy is considered. It should be emphasized that an exact and careful inquiry into the nutritional habits of patients is an important part of the collation of a history. In the two cases reported by Manuel G. Gichner and Milton Sherry, Baltimore (*Journal A. M. A.*, July 5, 1930), the essential illuminating fact that there had been for a long time a dietary insufficiency was brought out only after careful studies had excluded as causal the more usual syndromes in which the presenting symptoms occur.

THE FAMILY IN A CHANGING WORLD

"Parents must realize, and more and more do, that the effectiveness of their influence upon children is dependent to a considerable degree, upon the extent to which they themselves grow in stature. There is no question of abnegating or sacrificing ourselves for our children. We have to grow through the years along with the children, in power and in satisfaction."

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Greetings for the New Year

"May you pack away your troubles
And throw them to the winds
At the passing of the old year
When the New Year begins."

ANNUAL DUES

The annual dues should now be paid. If not paid you will be delinquent January 31, 1931.

Send $8.00 plus your county society dues to your county society secretary.

CALL FOR PAPERS

If you wish to read a paper before the next annual meeting of the Nebraska State Medical Association, send your name and title as soon as possible to the office of the secretary, Dr. R. B. Adams, Center McKinley Bldg., Lincoln, Nebr.

AN EVALUATION OF THE NEBRASKA PROFESSION

Within fifteen years, coincident with the growth of the *Nebraska State Medical Journal,* the medical profession of Nebraska has developed tremendously in scientific worth and is today the equal of the profession of any state. The influence of the training afforded by the two medical colleges in Omaha, together with a generous sprinkling of young men trained in the eastern centers has been of incalculable advantage to Nebraska medicine.

FIFTEEN YEARS OF THE NEBRASKA STATE MEDICAL JOURNAL

With the preceding number of the *Nebraska State Medical Journal,* fifteen years of Nebraska State medical journalism was completed and with the present number Volume XVI begins. The *Journal* was started auspiciously with Dr. Irving S. Cutter, then dean of the Nebraska University College of Medicine, now dean of Northwestern University Medical School, Chicago, as editor for two years; later Dr. J. M. Aikin, then secretary of the Nebraska State Medical Association was editor for several years until his rather sudden death in November 1920, whereupon the editorship was assumed by the present editor, then. as now, chairman of the publication board, who has just completed ten, to him, very delightful years of service, as editor.

The work has been a liberal education to the editor, who came to the work without preparation and without previous thought of himself as an editor of anything, much less of a state medical journal. His professional life as a general practitioner and pioneer surgeon in a rural community town of 2,000 people had taught him certain basic things in life and in medicine, from which fund he has liberally drawn inspiration for the work in hand.

It has ever been the idea of the present editor that a state medical journal should be the exponent of a cross section of the organized profession it aims to represent; it should publish the articles offered by the profession as space permits, whether highly scientific or mediocre, since they represent the best efforts of the parties and encourages further effort in that direction, which means study; make a prominent feature of editorials by the editor and by members of the profession who wish to discuss medical economic and scientific matters in an authoritative way; that the editor should present to the profession monthly in a terse, graphic manner paragraphs of information, scientific, literary, historical, and that notes of interest about members of the profession of the state should be a prominent feature holding the interest of the reader in classmates, acquaintances and others.

It is altogether likely that the state medical journal is the most cohesive thing in medical organization today.

Whatever the *Journal* is today. whatever it means to the profession, is due to the assistance and encouragement of friends within the profession who were ever helpful, ever encouraging.

The editor craves a continuation of the assistance and encouragement of the profession and solicits constructive criticism from time to time to the end that the *Journal* may continue to improve with the passing years.

WHAT OF THE FUTURE?

Undoubtedly we are passing through one of the periods of greatest industrial depression within a century. The agricultural industry on which we in Nebraska depend has suffered its full share, partly by shortage of crops during the past few years, partly by a fall of prices to low levels not heard of for years.

The most rigid economy is necessary to get along, pending the dawn of a brighter era.

All business and welfare organizations are affected, The Nebraska State Medical Association included. In 1926 the membership of this organization reached 1219 which is the all-time record. A slight recession occurred with the increase of dues a few years ago and today the membership is 1188. Probably twenty-five men have left the state each of the last several years and while their places have been filled in the respective communities, mostly with younger men, the latter are slower in gaining membership in the local societies; so the membership may be said to be fairly satisfactory with prospects of a substantial increase, possibly this year.

The danger, if danger there be, is that some present members feeling the stringency of the times may allow themselves to lapse, which would be a grievous mistake. Nothing means so much to a physician as his membership and interest in organized medicine. He may not in everyday life always realize this any more than he realizes the benefits of organized government, but it would be a sad day if he were deprived of the benefits of organized government; similarly it would be unfortunate for him if he were to fail in his support of organized medicine. So reach for your check book at once and do your duty!

The Nebraska State Medical Association has never been so well organized to do constructive work as it is today.

WORLD WAR PHYSICIANS MEMORIAL IN PARIS

A Pershing Hall Medical Memorial is proposed in connection with a memorial building being erected in Paris called Pershing Hall, to be a memorial for physicians who served and died during the war. All major groups, the Army, Navy, Marine Corps, National Guard, the Engineers, American Field Service, the Red Cross, the Knights of Columbus, the Salvation Army, the Jewish Welfare Board, the Elks, and the Daughters of the American Revolution, have contributed from ten thousand to twenty-five thousand dollars each for special halls dedicated to their respective services. The American Medical Association has been asked for ten thousand dollars for a Medical Memorial and it was thought best to ask for spontaneous contributions of from one to twenty-five dollars from the membership of the Association. This will undoubtedly appeal to most physicians. Send contributions to the American Medical Association, 535 North Dearborn St., Chicago.

THE WHITE HOUSE CHILD HEALTH CONFERENCE

The Child Health Conference in Washington last month was attended by over 3,000 physicians, psychologists, educators and administrators, which, in a measure, indicates the interest in the problem of the health and care of the child. The work of the conference resolved itself into the following studies: Growth and Development; Prenatal and Maternal Care; Medical Care for Children; Public Health Service; Education and Training; The Handicapped Child.

Dr. Ray Lyman Wilbur summarized the work of the conference as follows:

"Every child is entitled to be understood, and all dealing with him should be based on the fullest understanding of the child.

"Every prospective mother should have suitable information, medical supervision during the prenatal period, and competent care at confinement. Every mother should have postnatal medical supervision for herself and child.

"Every child should receive periodical health examinations before and during the school period, including adolescence, by the family physician or the school or other public physician, or such examination by specialists and such hospital care as its special needs may require.

"Every child should have regular dental examination and care.

"Every child should have instruction in the schools in health and in safety from accidents, and every teacher should be trained in health programs.

"Every child should be protected from communicable diseases to which he might be exposed at home, in school or at play, and protected from impure milk and food.

"Every child should have proper sleeping rooms, diet, hours of sleep and play, and parents should receive expert information as to the needs of children of various ages as to these questions.

"Every child should attend a school which has proper seating, lighting. ventilation and sanitation. For younger children, kindergartens and nursery schools should be provided to supplement home care.

"The school should be so organized as to discover and develop the special abilities of each child, and should assist in vocational guidance; for children, like men, succeed by the use of their strongest qualities and special interests.

"Every child should have some form of religious, moral and character training.

"Every child has a right to play, with adequate facilities therefor.

"With the expanding domain of the community's responsibilities for children, there should be proper provision for and supervision of recreation and entertainment.

"Every child should be protected against labor that stunts growth, either physical or mental; that limits education, that deprives children of the right of comradeship, of joy and play.

"Every child who is blind, deaf, crippled or otherwise physically handicapped should be given expert study and corrective treatment, where there is the possibility of relief, and appropriate development or training. Children with subnormal or abnormal mental conditions should receive adequate study, protection, training and care."

SANSUM ON WEIGHT CONTROL

A correspondent gives us a slant on Dr. W. D. Sansum's ideas of weight control of the obese, as given before a lay audience:

His talk resolved itself largely to a talk against the use of cream and butter. The reason fat people are always craving sweets is because they actually need carbohydrates to burn up the fats. In reducing if they cut the fats from the diet, then the sugars and starches they eat will be utilized in burning the fats stored in their own bodies. Thin people usually will not gain if they add more fats to their diets because their trouble is due to lack of ability to digest what fats they are taking.

Most interesting is what he said about glucose injections. While working in Chicago with Woodyatt someone suggested the idea of intravenous injections of glucose. Woodyatt invented the instrument for injecting it. After trying it out on rabbits Russel Wilder volunteered to be the first human on which it was tried and next Sansum and a group of other students. It proved to be a very remarkable emergency procedure, particularly in emergency operations on fat people, for these people cannot retain food and hence cannot properly oxidize fats. When given glucose in this way they oxidize their own surplus fats until such time as they can take food normally. One has heard of people who were given pure sugar candy before they were given anaesthetics in order to avoid nausea, and this is the same idea.

TREAT THE PATIENT AS WELL AS HIS ILLNESS

With all of the hue and cry concerning the high cost of medical care and the effort being put forth by well-intentioned people to saddle socialistic medicine upon us, it is a good thing for us to ask if there is not something wrong with the medical profession. We have been following in a groove for many years and the question arises as to the necessity of getting out of the groove if we are to avoid the fate that is in store for us unless we change some of our practices and standards.

As medical men we are too individualistic and too prone to look to our individual welfare and neglect taking any part in a community interest that is so vital to our future progress and economical position. We encourage all sorts of extravagances and unnecessary attention in connection with the services we render, until the public rebels at the burden. Much of our attitude in this direction is due entirely to our own selfishness and desire to make things easier for ourselves, though in doing this we add to the burdens of the public without really increasing the trustworthiness or value of the necessary services we are rendering.

We lack unity of purpose and constructiveness in our own interests as well as in the interests of the public when we neglect to provide for the care of the major portion of the people not only in a creditable professional manner but at a cost to the public which can be borne by the public without hardship and great inconvenience. We have added to the burdens of the public without showing any appreciable effort to share some of those burdens ourselves and thus make our position of confidence on the part of the public more secure without loss to ourselves.

It also is true that we have made wonderful advances in the diagnosis and treatment of disease. but most of us have made the inexcusable mistake of treating the disease and giving little attention to the patient himself. Our clinics and our hospitals are weaning us away from the humanizing factor in the practice of medicine. We are becoming too impersonal and mechanical in our contact with patients, and we are not sympathetic or considerate enough with the mental or psychologic condition of our patients. We tell our patients that they have a leaky heart or tuberculosis, and then utterly fail to create in the patient's mind a feeling of optimism concerning the future by telling him that his affliction does not necessarily prevent him from engaging in any gainful occupation, or along safe lines to enjoy many of the things that make life worth living. We frequently dismiss patients with emotional disturbances and the imaginary complaints that harass certain persons when they should have sympathetic consideration and advice. In short we are losing rapidly our fundamental interest in humanity, with the result that the patent medicine vendors, the medical pretenders, and the cultists of every type are filling the gap, for their stock in trade is optimism and friendly sympathy. Many of those who fall into the nets of the cultists and the quacks have been willing and many of them able financially to undergo thorough examinations in order to arrive at a correct diagnosis of insignificant or imaginary troubles which all too frequently have received superficial attention and the patient told that there is nothing the matter with him. It is not necessary to be tricky or dishonest in the practice of medicine, but it is necessary to consider every patient coming to us as having something the matter with him, be it emotional or definitely pathologic, as requiring our careful and conscientious consideration and advice. A sympathetic and considerate attitude of a physician, coupled perhaps with therapy for a very insignificant pathologic condition, often results in a cure of what to the patient seems to be a very serious ailment. The human element plus a spirit of optimism duly transmitted to the patient is what spells success for nine out of ten quacks who pretend to and often do cure all sorts of imaginary ailments that could and should be cured by educated and well-trained members of the medical profession.

A great many people are having unnecessary operations, and in one sense we ought to frown upon the altogether too common exploratory operation, and it is a very justified criticism that too many operations are performed without sufficient examination and analysis of conditions presented. One of our greatest problems is to make sure of our diagnosis, and differentiating between emotional or psychic disturbances and real morbid pathology. The public has grown to believe that the only thing that physicians want to do is to operate, and sometimes we think that the public is quite correct in that assumption. Certainly it is that when physicians are looking constantly for surgical cases because they are profiting by doing the surgery themselves, or are unduly profiting when others do it, they are open to distrust and criticism, for under such circumstances the patient's real welfare is being neglected.

We need at the present time more than anything else to get back to first principles as followed by our forefathers in the practice of medicine. and that is to work for a restoration of confidence in us by taking a real interest in patients themselves as well as in their complaints. In other words, it is up to us to treat the patient himself as well as his illness.

—**Editorial, Indiana M. J.**

EXIT BUYING ON CREDIT

During the past decade installment, or better known as time payment, buying has reached such proportions that many parts of the country find themselves facing serious economical conditions.

Automobiles are considered a family necessity instead of a luxury. many families unable to buy proper clothing and food are found owning or trying to pay for some kind of car, either new or used.

The radio may also be classed along with the automobile, for many of the same sort of people can be found trying to pay for a high priced radio, while the members of the family are almost without clothes.

Many instances can be cited where the family income is less than $100 per month and payments are being made on a car, radio, high priced washing machine, as well as rent, clothing, fuel, and food. One instance, I recall, where the income is $90 per month, the family is paying $39 per month on a new car, $20 per month on an electric radio, house rent of $15 per month and trying to feed and clothe a family of four on the balance; the result is, they are trying to put off the butcher, grocer, milkman, doctor, and many others.

Hundreds of such cases could be cited to illustrate how people are living far above their incomes.

In one community a total of forty tractors representing between forty and fifty thousand dollars, were sold on time payment plan, each one mortgaged for at least two-thirds of its value.

Banks are lending money and taking as security horses, cattle, hogs, and grain, thereby protecting themselves against loss, for the amount of security is from three to five times the amount of the loan.

In fact, the individual finds that his income or a greater part of it for the next year is mortgaged in some manner.

It remains for him to find a means of meeting his other obligations, or in other words open accounts for food, clothing, fuel, and medical care; someone must be slighted for the money will not go around.

Another instance of how credit has been abused is: People would come to town, go to the grocer, buy a quantity of eggs, get them charged, then take them to the produce dealer, sell them for cash and take the check to the filling station, spend part of it for gas and oil, then put the remainder in their pockets to be spent for other things, such as movies, ice cream, etc., but when the grocer tried to collect his bill he was told it would be paid when he sold cattle or hogs which, of course, was taken in good faith, then in due time, the cattle or hogs, were sold and the bank took the money for they were holding a mortgage on them and the good-hearted merchant was holding the sack.

Such conditions along with three crop failures in four years, bank failures and similar conditions, forced the business men of Bloomfield, Nebraska, to form an association, draw up a set of by-laws and go on a strictly cash basis. This association takes in every form of business in town, and is known as the Bloomfield Retail Merchants and Professional Men's Association.

The plan is as follows:

"Be It Resolved that we, the undersigned merchants and business men of Bloomfield, Nebr., will go on an absolutely cash basis on and after April 1st, 1928.

"We will continue our present delivery system with the undestanding that all orders sent will be paid for cash in advance.

"All orders mailed will be send C. O. D.

"Any alterations from the above can be adjusted through agreement of conflicting business.

"Penalty for violation of above:

"Any of said business men violating above will be subject to a $100.00 fine, said fine to be given to the Bloomfield Community Club."

This plan resulted in the following conditions: At first the pride of many was hurt, but as the end of the first month drew near, quite a few were reconciled to pay cash, others were either going to nearby towns to buy or sending to mail orders houses for supplies, but this, too, took cash and by the beginning of the third month most of them were buying from the home merchant.

However, the dead beat and the slow pay found themselves in a condition where they had to get to work in order to get cash to buy the necessities, for the county would not keep them if they were able to work. Many too lazy to work moved away.

The merchants reduced the prices of goods from ten to fifteen per cent and gave the public some inducement to buy for cash.

Never has a more satisfied and happier lot of business men been seen, for they know when they close their doors at the end of the day, that the cash is in the cash register for every cents worth of merchandise sold that day and that they are not carrying one stock of merchandise on the shelf and another on their ledger.

After two years of strictly cash, an interview with each and every member of the association, resulted in not one single instance where a return to the former credit system is desired.

More business is being done proportionately than under credit system.

A majority of the people, in commending the business men for the strictly cash plan, have remarked, "It is the best thing you have ever done for us and we would all be better off today if you had done this very thing years ago."

—P. B. Lonergan, Bloomfield.

PROCTOLOGIC HINT NO. IV

When a patient complains of pain, he probably has some other lesion beside hemorrhoids. The most frequent causes of pain are fissures, abscesses or fistulae.

—L. E. Moon, Omaha.

OH YES, INDEEDY!

Dr. Quackster, the cheerful comforter, in his best bedside manner—"Pardon my bringing my bill with me, but you know how difficult it is to drag money out of anyone's heirs."

Dear Reader:

The Journal and the Cooperative Medical Advertising Bureau of Chicago maintain a Service Department to answer inquiries from you about pharmaceuticals, surgical instruments and other manufactured products, such as soaps, clothing, automobiles, etc., which you may need in your home, office, sanitarium or hospital.

We invite and urge you to use this Service.

It is absolutely free to you.

The Cooperative Bureau is equipped with catalogs and price lists of manufacturers, and can supply you information by return mail.

Perhaps you want a certain kind of instrument which is not advertised in the Journal, and do not know where to secure it; or do not know where to obtain some automobile supplies you need. This Service Bureau will give you the information.

Whenever possible, the goods will be advertised in our pages; but if they are not, we urge you to ask the Journal about them, ro write direct to the Cooperative Medical Advertising Bureau, 535 N. Dearborn St., Chicago, Illinois.

We want the Journal to serve you.

EDITORIAL PARAGRAPHS

Have just read that American ends in "I Can" and come to think about it, it is true.

The question whether a foreigner may be licensed to practice medicine in Nebraska before becoming a naturalized citizen is before the courts for final decision.

The United States Public Health Service recommends that children should be vaccinated before they are a year old and on entering school they should be vaccinated again.

Uroselectan introduced lately for radiographic visualization of the urinary tract is chemically Sodium-2-oxo-5- iodo-pyridine -N- acetate. "Thanks!" You're welcome!

It is stated, on authority, that the Supreme Court of the state of Washington has decided that in malpractice suits, if the expert testimony disagrees. there can be no recovery.

Cinchona was introduced into medicine about 1630 by Juan Lopenz Canizares as a remedy for malaria. Quinine was isolated more than a hundred years ago by Caventon and Pelletier.

It has been pretty definitely determined that the so-called ginger paralysis is caused by a substance known as tricresyl phosphate used in making an adulterated extract of ginger, not by "moonshine" whiskey, states the *J. A. M. A.* editorially.

The license of Dr. George L. Wagner of Deshler, to practice medicine in Nebraska has been revoked following a suspended sentence given him a few weeks ago with instructions to enter an institution for the cure of the liquor habit, which instructions he failed to heed.

We have a great deal of respect for physical therapy—it is a valuable addition to therapeutics; but when we read in a house circular that 92 different conditions are successfully treated by this method, including asthma, Neiserrian infection, diphtheria carriers, alopecia areata, we wonder.

That prohibition does not entirely prohibit is no better argument against prohibitory liquor laws than that the laws against bank robbery and against stealing automobiles do not entirely prohibit bank robbery or auto stealing. If, because of violition we should repeal any one of them, let us repeal all of them.

Hereafter "Tell me not in mournful numbers" that people do not read *The Nebraska State Medical Journal.* Last month a slight error occurred in giving the honorary title to an author's name —and within a few days after the *Journal* was mailed a party writing from Philadelphia reminded the editor of the error!

While it is possible to immunize children to diseases other than small pox and diphtheria, the United States Public Health Service does not think it advisable to do so in all cases. Scarlet fever is usually so mild nowadays that wholesale immunization is not recommended except in institutions. The same is true of measles.

A Nebraska Antivivisection society was organized in Omaha recently under the personal direction of managing director of the National Antivivisection society. This is to signalize the opening in Nebraska of a campaign against what is charged to be inhuman experiments with animals, and some noise will be made in the near future, we may well believe.

It is stated that the new Veteran's hospital at Lincoln will be ready for patients early in the new year. At first it will be able to accommodate 216 patients. It is said that more than this number are awaiting treatment. Ten full time physicians will be employed and a consulting staff of Lincoln physicians and surgeons will be organized. The employees will number 184.

Commendable encouragement has been given by all poliomyelitic cases in and about Grand Island submitting of their blood for the production of serum for those cases yet to come. Dr. J. G. Woodin, city physician, and Dr. Frank D. Ryder, both of Grand Island, are backing this work with both their time and efforts. The medical men of Grand Island are heartily with the doctors and hope ample serum may be obtained to produce the much needed supply.

Press clippings indicate that in a number of counties competitive bids are called for from physicians for the privilege of becoming county physician. Competitive bidding for the privilege of attending paupers is detrimental to the profession. The amount of work required is an unknown quantity and the competition is bound to lower the dignity of the profession. We are told that in a near-by county a physician—a very good man—is doing the county work for the munificent sum of $75!

The homely and economical virtues of Calvin Coolidge crop out ever and anon. The standard breakfast dish of the Coolidges in the White House and elsewhere has consisted of a breakfast food of whole wheat and whole rye mixed, washed. soaked over night and cooked in a double cooker for about four hours, cooled, put in the refrigerator for use as needed and reheated for the meal as wanted. Why people in any circumstances, poor, moderate or wealthy, will use the "fodder" sold as breakfast food, when such a tempting and nutritious food as whole wheat can be had, is a puzzle. Certainly the poor and those of moderate means could economize tremendously by using the whole grain when a bushel of wheat at less than a dollar will buy more in food value than a hundred dollars worth of patented breakfast food.

THIS MONTH IN MEDICAL HISTORY

January. 1931

David Gaub (1705-1780), a pupil of Boerhaave, became lector in 1731 and later professor of chemistry at Leyden. He wrote a useful book on prescriptions (1739).

William Heberden the elder was twenty-one years old in 1731 and his son, born when his father was fifty-seven years old, a distinguished physician one hundred years later. The father noted the lessened liability to diphtheria in adults, the influence of pregnancy upon pulmonary tuberculosis and described angina pectoris. The son wrote an excellent Latin Epitone of Pediatrics.

John Lizars (1783-1860), a pupil of John Bell of Edinburgh, became professor of surgery in 1831. He was a fellow pupil of McDowell and followed his leadership in the operation of ovariotomy.

Jules-Germain Cloquet (1790-1883) completed his famous Anatomie de l'homme in 1831 in five volumes with 300 folio plates.

Daniel Drake (1785-1852) published in 1831 a series of papers at Cincinnati on the evils of city life.

John Kearsley Mitchell (1798-1858), of Virginia, described in 1831 for the first time the spinal arthropathies, since the subject of special study by Charcot and others.

Robert Chessher of Hinckley, Leicestershire, who died in 1831, was a pioneer in the construction of special apparatus for the treatment of fractures and weak spines and in the use of massage for contracture deformities.

NECROLOGY

Joseph V. Taylor, Boston, Mass., born and reared at Alliance, Nebr., and graduated from the local high school; obstetrician and gynecologist in his adopted city; served with the American Expeditionary Forces at Archangel, Russia, 1918-1919, and was cited for bravery by the British commandant; died November 15, 1930, aged about forty years. Burial at Alliance, Nebr.

J. Boston Hill, (colored), Omaha; Meharry Medical College, Nashville, 1904; died of asphyxiation in his office, November 22, 1930, aged sixty years.

Frank A. Snyder, Lincoln, Nebr.; Northwestern University Medical School, 1881; practitioner at Tecumseh for 12 years and for the past thirty-five years at Lincoln; surgeon major with the First Nebraska Regiment in the Philippines; died from the remote effects of a fall sustained in November, aged seventy-three years.

J. F. Weiland, Fremont, Nebr.; University of Colorado, School of Medicine, 1904; practitioner of Fremont for twenty-five years, specializing in eye, ear, nose and throat work; died December 6, after a short illness, aged sixty-eight years.

AUXILIARY NOTES

The November meeting of the Woman's Auxiliary of Lincoln County Medical Society was held at the Yancy Hotel, North Platte, with Mrs. C. F. Heider as hostess. Plans for the work of the year were discussed and it was voted to assist, as a body, in raising money for the new Community Hospital which is to be built in North Platte by public subscription.

At the home of Mrs. Clarence C. Hickman, Lincoln, the auxiliary of the Lancaster County Medical Society gave a tea November 19th, 1930. Mrs. Roy Whitham was chairman of the affair and was assisted by Mrs. Hickman, Mrs. Mayhew, Mrs. Andrews, and Mrs. Woodward. In the afternoon Dr. Bartholmew addressed the group and the remainder of the afternoon was spent with bridge. Presiding at the tea-table were Mrs. E. W. Rowe, state president, and Mrs. John Thomson, president of the local auxiliary. Assisting them were Mrs. Hansen, Mrs. Munger, Jr., Mrs. Lewis, and Mrs. Hancock.

A dance has been planned for sometime in January to honor the members of staff, and their families, of the new Federal Hospital which has just been completed in Lincoln.

Officers of the Cedar County Auxiliary for the year 1930-31 are:

President, Mrs. Paul Siman, Wayne, Nebr.

Vice President, Mrs. G. E. Peters, Randolph, Nebr.

Secretary and Treasurer, Mrs. S. H. Cook, Randolph, Nebr.

Hygeia Chairman, Mrs. Carroll, Laurel, Nebraska.

—H. C. R.

THE SOCIETIES

The annual election meeting of the **Omaha-Douglas County Medical Society** was held December 9. Dr. A. S. Pinto was elected president; Dr. B. M. Riley, vice president; Dr. Harman Jahr, secretary-treasurer; Drs. R. O. Moser and Warren Thompson, members medical council.

At a regular meeting of the **Omaha-Douglas County Medical Society,** November 12, the first number on the scientific program was a paper by Dr. J. W. Duncan on the Effects of Extremely Hot Weather on Surgical Patients. Dr. Duncan cited a series of six cases who had died from 14 to 72 hours post-operative and whose deaths could be explained on no other basis than sun stroke or heat prostration. The doctor presented a comprehensive review of the literature on this subject and made some pertinent remarks on the management of the surgical patient during hot weather. This paper was discussed by Drs. Mason, Henry, Potts and Duncan.

Dr. Louis Bushman presented a short discussion on the Effects of Eye Strain in the Production of Headaches. Many of the so-called headaches of unknown origin, Dr. Bushman stated, are due to improper illumination producing systematic strain on the eye muscles by reflecting surfaces. This etiological factor in the production of headaches is particularly prominent in school children, teachers and office workers. Faulty illuminating systems in offices and class rooms, high polished furniture, glass top desks all tend to produce a condition of faulty reflection with resultant eye strain. The doctor urged that patients presenting themselves with a symptom headache showing on examination a mild and indefinite reddening of the conjunctiva, with no other evidence of constitutional disturbances, a study should be made of the patient's home and office facilities and measures should be undertaken to ascertain that illumination is not the cause of occular disturbances.

The next number on the program was a Symposium on Mastoid Disease under the supervision of Dr. A. F. Tyler, radiologist at the Immanuel Hospital. Cases of Mastoid complications following acute infectuous and upper respiratory diseases were cited. These cases were presented by Drs. A. R. Knode, Claude Uren, and Alexander J. Young, who discussed the mastoid pathology of the cases, x-ray interpretations being discussed by Dr. Tyler from lantern slides of 20 plates. Dr. Clyde Moore discussed the clinical side of Mastoiditis in children.

At a meeting of the same society November 25, the scientific program consisted of a paper by Dr. Philip Romonek on "Reducation of the Voice following Complete Laryngectomy for Carcinoma of the Larynx". The patient was present and demonstrated his ability to vocalize. Dr. Ralph Luikart reported "Three Cases of Satisfactory Treatment of Septate Uterus".

—Abstracted from The Bulletin.

The regular meeting of the **Lancaster County Medical Society** was held November 18, 1930. The guest of the evening was Dr. J. W. Wear, Medical Director of the National Fidelity Life Insurance Company of Kansas City, Missouri. He was entertained by a few of the members at dinner at the University Club and later addressed the society in the society quarters.

Dr. Wear's subject was "Life Insurance Examinations." In the address he first gave the history of life insurance examinations. Life insurance had its inception in England and in the beginning the applicant for insurance was examined by a lay board who inquired into his personal history, his past diseases, and observed his build and general state of health before issuing insurance. A little later a certificate from his family physician, and eventually a general examination by a physician selected by the company were required. In addition to the points already mentioned in determining the risk, general reliability, morals and financial responsibility came to play a part. Altogether Dr. Wear outlined eleven points in the determination of risk, of which the physical examination is merely one.

Next Dr. Wear considered the difference between the medical examination of applicants for life insurance and the professional call for a disease condition. He stressed particularly the difference in the attitude of the individuals under these different circumstances. The patient comes to the physician looking for advice and help, prepared to do what is told him. The applicant for insurance comes to the physician to consummate a business proposition with all of the skepticism and shrewdness common in barter and trade. He is inclined to distrust the physician who may interfere with the proposed transaction. It is the physician's duty to handle this individual with tact and friendliness in order to maintain his good will toward the insurance company, at the same time obtaining the necessary facts.

He went into some of the details required in the course of the examination and finally concluded the address by a general discussion of the application of insurance statistics in determining the risk whether standard or substandard. He finally mentioned the contributions that have been made through insurance medicine, mentioning particularly the standard weight tables, the standard blood pressure tables, the sphygmomanometer and the sulphosalicylic acid test for albumen. He showed lantern slides, demonstrating a study of the effects of varying amounts of albumen in the urine upon insurability.

—Lancaster County Bulletin.

The Cedar, Dakota, Dixon, Thurston and Wayne Counties Medical Society held its annual meeting in Wakefield on November 20th.

The program was in the form of symposium on "Anterior Poliomyelitis" with the following doctors from Sioux City discussing the subject from the angle of their particular specialty: 1. The Pathology, Dr. A. C. Starry; 2. Poliomyelitis in Children, Dr. R. H. McBride; 3. Orthopedic Treatment, Dr. A. F. O'Donoghue; 4. General Treatment, Dr. W. D. Runyon.

At the business meeting the following officers were elected for the ensuing year: President, Dr. C. L. Phillips, Dixon; vice president, Dr. F. G. Dewey of Coleridge; secretary-treasurer, Dr. S. H. Cook of Randolph; delegate to the State Society, Dr. C. L. Phillips of Dixon; alternate, Dr. C. B. Coe of Wakefield.

It was voted to hold the 1931 meetings in the following places; Wayne in April, Emerson in June, Walthill in August and Laurel in November.

—C. L. Phillips.

The **Custer County Medical Society** gave their annual banquet December 11. A scientific program was also given as follows: "Albuminuria," Dr. T. H. Koefoot, Broken Bow; "Injection Treatment of Varicose Veins," Dr. R. D. Bryson, Callaway.

The annual meeting of the **Gage County Medical Society** resulted in the election of the following officers: President, Dr. J. C. Waddell; vice president, Dr. J. C. Schowengerdt; secretary, Dr. F. W. Buckley; delegate, Dr. J. I. McGirr.

The annual meeting ot the **Cass County Medical Society** was held at Weeping Water following a dinner at the Rest Haven hotel. The program was furnished by three Omaha physicians: Dr. R. B. Eldrege spoke on vaccines; Dr. A. E. Bennett spoke on serum treatment of infantile paralysis and Dr. W. H. Taylor on modern obstetric procedures. Dr. M. U. Thomas, Weeping Water, was elected delegate.

The **Hall County Medical Society** met Tuesday evening, October 28, 1930, at the Grand Island Clinic. A symposium on Peptic Ulcer was presented at the meeting.

The first paper, read by Dr. Earle E. Farnsworth, was on "The Symptoms and Medical Treatment of Ulcer".

The second paper, read by Dr. A. P. Synhorst, was on "The Surgical Treatment of Ulcer".

The third subject, presented by Dr. W. J. Arrasmith, was on "The Complications of Ulcer and Ulcer Surgery".

The November meeting was held on the 25th at the McGrath-Woodruff clinic. Dr. B. R. McGrath read a paper on Gallbladders and Dr. J. E. Gelow a paper on Chronic Maxillary Sinusitis.

The **Dodge County Medical Society** met at Fremont, November 24 following a dinner at the Pathfinder of which about forty partook. Dr. C. W. Hopkins, Chicago, Chief Surgeon of the Northwestern System spoke on "Blood Pressure". Dr. George Neuhaus, Omaha, also spoke.

The December meeting of the **Otoe County Medical Society** was held Monday, December 8, at the Memorial Building, Nebraska City.

The following program was offered:

Dr. Wm. L. Shearer, Omaha, "Impacted and Embedded Third Molars and Some of Their Influences Upon the Body as a Whole"; Dr. Roy Ralston, Omaha, "Fractures of the Jaw"; Dr. Herman Johnson, Omaha, "Common Types of Fractures with Discouraging End Results".

HUMAN INTEREST TALES

Dr. G. J. Hand, Alliance, has recovered from a recent operation.

Dr. B. F. Jeffers, formerly of Glendale, Ariz., has located at Curtis.

A Nebraska physician was fined $100 recently for possession of liquor.

Dr. and Mrs. A. F. Jonas visited at Madison, Wisconsin, Thanksgiving.

St. Mary's hospital, Columbus, celebrated its fiftieth anniversary November 20.

Dr. D. H. Gillmore, Murray, has been made a lieutenant colonel in the medical reserve corps.

Dr. H. V. Nuss formerly of Omaha has located at Sutton in succession to Dr. Jas. G. Stone.

Dr. C. A. Bradley, Beatrice, called at the editor's office in Madison the day after Thanksgiving.

The will of the late Dr. Ole Grothan, St. Paul, Nebr., is being contested. An estate of about $150,000 is involved.

The Western Surgical Association meeting at Kansas City, December 5 and 6, attracted a number of Nebraska surgeons.

Dr. M. H. Evans, Emerson, has recently returned from a stay in a Sioux City hospital where he underwent an operation.

Dr. Frank L. Ready, Hartington, who for the past year has been associated with Dr. J. M. Johnson, has opened a separate office.

Dr. J. I. Limberg, who has been located at Spencer for a few years, has located in Fremont in succession to Dr. Robert Preston.

Dr. B. F. Bailey, Lincoln, was reëlected president of the American Inter-professional Institute at a meeting in Lincoln, November 15.

Dr. F. A. Lemar, formerly of Humphrey, after doing postgraduate work in New York City for about 9 months has become associated with Dr. A. E. Gadbois, Norfolk, in the OALR specialty.

Dr. D. T. Quigley, Omaha, presented a paper before the Radiological Society of North America at Los Angeles, December 1. Subject, "What Shall We Teach the Public in Connection with Cancer?"

Additions to the staff of the Veteran's hospital at Lincoln have been made as follows: Dr. Joseph S. Green, veterans hospital, Kansas City, Mo.; Dr. H. A. Myers, veterans hospital, Fort Harrison, Mont.; Clarence G. Hackbarth, veterans hospital, Fort Lyon, Colo.

Dr. H. W. Orr, Lincoln, gave a paper and clinic at Dallas, Texas, November 27-28; an address before the Chicago Association of Industrial Surgeons, December 3; a paper at the Western Surgical Association meeting at Kansas City, December 5, and an address before the Kansas City Academy of Medicine December 17.

Dr. Olga Stastny, Omaha, nationally known for her welfare work in Europe following the World War, spoke before the Fremont Rotarians, December 5.

The more or less notorious "Dr." Fippin (colored) who made a lot of trouble at Grand Island in past years, died recently in California and was buried at Grand Island.

THE DEADLY POTATO (SOLANUM TUBEROSUM)

America's pernicious traffic in alcoholic beverages having been estopped by godly men and prayerful women, and that noxious weed, tobacco, rapidly going the way of alcohol, it behoves all those who are interested in their brother's welfare to gird up their loins and do battle against the wide-spread use of the potato. Digestive disturbances and domestic tragedies are all too easily traceable to this seemingly harmless vegetable. "Seemingly harmless" is used correctly; in reality the potato is deadly, it belongs to the lethal family of the nightshades.

As a disturbing factor to human happiness, consider the distress too often occasioned by the eating of cold potatoes. What is more cheerless than a cold potato? Consider the righteous wrath of the husband who is compelled to eat cold potatoes because his wife needs must spend her afternoon in gaining inspiration from that soulful motion picture entitled, "The Warm, Lingering Kiss." Consider the resultant quarrel because he does not "understand" her, and the disruption of a home. Away then with the potato, whose coldness thus blasts the lives of two whose hearts should beat as one, and wrecks a home.

Is there anything more deadly than the potato dumpling? There are at hand authentic records which tell of a flock of ostriches entirely destroyed by eating them. And medical records are filled to overflowing with case reports of the devastating effects of potato dumplings upon the tender mucous membrane which lines the human stomach. Neither should it be forgotten that in innumerable murders and assaults the potato dumpling has been used as a missile with deadly effect. In all sincerity, a law to prohibit the manufacture and sale of potato dumplings should be the spearhead of our noble effort to free the world from the potato.

Who can appraise the destruction wrought by fried potatoes? Dietitians tell us that when surrounded by a film of oil the potato is rendered 99.5 per cent indigestible. Then, too, they tell us that the "process attendant upon attacks of indigestion in the human gastric region bring about the generation of toxic gases and the formation of poisonous acids which quickly destroy or impair the functions of the stomach." Thus the loss of efficiency induced by fried potatoes takes an annual toll in dollars and cents which is truly appalling. Industry, finance, and religion itself, all suffer; for who can have inspiring thoughts when the stomach is cramped because of the gastric pains caused by fried potatoes?

Last, but by no means of lesser importance, is the effects of the eating of the Solanum tuberosum upon women. It is fattening! How can our women and girls retain their youthful forms if compelled to eat potatoes in any form? And if they cannot retain their boyish figures how can it be expected that real men will continue to make all the sacrifices demanded by them? For what real man can love a fat woman with a shaved neck, short skirts, and pedal extremities adorned with high heels? It is repeated, who can? And so it is to the women of America that this crusade should appeal especially.

The hour is at hand, the time will never be more propitious for striking, the good word is, "Forward!" Let us all unite in prayerful resolve to rid America of the deadly potato.

Write to your congressman, confer with your pastor and make all checks payable to the Anti-Potato League of America, Washington, D. C.

WHAT AUXILIARIES MAY DO WITH HYGEIA

1. Place Hygeia in Public Libraries, School Libraries, Y. M. C. A.'s and Y. W. C. A.'s, Reading Rooms of Public Places, Rest Rooms of Factories and Business Houses where large numbers are employed.

2. Try to interest: a. School authorities, both city and county, in Hygeia so that it may be used in the school room as a text book on health. It contains interesting and instructive articles particularly adapted to various grades. b. Parent and teachers associations in the magazine. If the P. T. A.'s would offer a small prize like a plant, a picture, a flag, or even Hygeia itself for the room having the best health record, or if the teacher would give some special honor mark or privilege to the pupil writing the best paper on some health topic taken from Hygeia, or if the association would sponsor a health poster contest, the interest in Hygeia would be increased. Through the cooperation of the P. T. A.'s, a great deal might be accomplished.

3. If finances permit, the State and County Auxiliaries might send subscriptions: a. To their legislators the same as the chiropractors and osteopaths do with their literature. Their's go to the Capitol, let us send ours to the homes. Give our law makers a chance to read about the various cults and quacks as exposed from time to time in Hygeia. Also let their families have the opportunity of reading and learning about health measures. b. To teachers in the schools. The auxiliaries may keep the commission allowed on new, as well as renewed, subscriptions to Hygeia and with the money thus earned, could send the magazine to teachers.

4. Try a Hygeia week. Have an attractive window or counter display in some prominent down-town store, showing Hygeia magazines and prizes. This would catch the eye of the passerby—especially the book on how to diet properly—it is called "Your Weight and How to Control It". It is one of the prizes offered with Hygeia subscriptions. Let some of your most attractive women take turns at the counter trying to get the subscriptions. Mr. F. V. Cargill, at Hygeia headquarters, will be very glad to cooperate with you and send the needed materials. Give it a try. Give it good publicity first.

5. There is also a "Sheet of Condensed Articles and Health News" as published in Hygeia that is very good and might be placed in the lobbies, hallways and offices of the various public buildings. We might, in this way, interest many people in Hygeia. I am sure that the office would be glad to furnish this "News Sheet".

These are only a few of the many ways that our Auxiliaries might take in trying to place Hygeia, our greatest Health Magazine, before the public. Let us do our share in helping our DOCTORS.

PROPHYLAXIS OF PUERPERAL SEPSIS

Harold A. Miller, D. Ben Martinez and Maurice E. Hodgdon, Pittsburgh (*Journal A. M. A.*, Sept. 27, 1930), assert that 90 per cent of labors leave a bruised, traumatized and lacerated cervix. In 10 per cent of these occurs the additional factor necessary to produce infection, the presence of bacteria. Four per cent of the bacteria found are hemolytic streptococci; hence in at least 4 per cent of spontaneous deliveries infection should occur and would do so were it not for the fact that the individual resistance to the organism is sufficient to prevent its invasion of surrounding tissues. Following the suggestion of Dr. G. P. Coopernail, Bedford, N. Y., the authors began cauterizing the cervix in all post-puerperal cases in which erosion existed, with a view to relieving patients of an annoying leukorrhea. In the course of time they discovered that they had cauterized thoroughly and deeply several pregnant uteri; hence the conclusion that the cervix could be safely cauterized in the milder and more moderate erosions even though pregnancy existed. In the beginning of this work great caution was exercised and only the milder cases were cauterized. They gradually extended the cauterization until a bright red granular area surrounded the external os on all sides as much as a half centimeter; but in no case did they attempt cauterization, nor do they believe the procedure applicable. when the erosion is complicated by a laceration that extends much beyond the external os, or in acute gonorrheal infection. They also limited the cauterization to the first ten or twelve weeks until, by experience, they found that it could be done as effectively any time during the first half of pregnancy. All patients cauterized are requested to remain in bed for the first two weeks, but many clinic patients follow the usual routine of life with no noticeable differences in the healing process. The clinical course of healing of the cervix is the same as is experienced in the nonpregnant uterus. If they later find the cauterization to be incomplete they recauterize, provided the patient has not passed the twenty-eighth week of her pregnancy. In a series of more than 2,000 cases in which the cervix was cauterized, one abortion occurred. An analysis shows these advantages of cauterization: 1. It does not prolong the first stage of labor or delay the spontaneous dilation of the cervix. 2. It does not increase the percentage of intervention by forceps, version or otherwise. 3. No case of sepsis has occurred in the healed cervix, while to the contrary, during the same period, two cases of severe sepsis occurred in cases in which the erosion was noted as being too extensive or laceration too deep to permit successful cauterization. 4. Temperatures are remarkably flat in contradistinction to the moderate elevation (100.6 F. or under) in the noncauterized group. 5. Antepartum cauterization of the cervix usually leaves a noneroded (healed) cervix at the end of the puerperal period in contradistinction to the 70 per cent of erosions in which cauterization had not been done.

EIGHT YEARS' EXPERIENCE WITH THE KETOGENIC DIET IN THE TREATMENT OF EPILEPSY

Henry F. Helmholz and Haddow M. Keith, Rochester, Minn. (*Journal A. M. A.*, Sept. 6, 1930), have prescribed the ketogenic diet for 272 children. Included in this number were twenty-nine cases of symptomatic epilepsy, and although two of the patients continue to be free from attacks, the results are not figured in the results in cases in which the patients have been observed for more than a year. The only complication in the entire series of cases was a case of pellagra which may possibly have been produced by the diet. The introduction of a small amount of yeast into the diet was sufficient to cure the pellagra. Of the 243 children with idiopathic epilepsy they excluded 72 patients who failed to cooperate. This leaves 171 children from whom to determine results; 141 of these have been on the diet more than a year, and thirty have been treated less than a year. Of the group of 141 patients treated for more than a year, 43 patients have remained free from attacks from one to seven years. Thirty-two patients have shown definite improvement, as evidenced by a decided reduction in the number and severity of the attacks and by improvement in general demeanor. The results of the treatment of 66 patients must be considered as failures. In the group of 30 patients who have been under observation for less than a year, 11 have been entirely free from attacks, 13 seem definitely improved, and 6 have not responded favorably to the diet. Before the diet was tried, most of these patients had been on a regimen in which phenobarbital was commonly used in controlling the convulsions. It is the authors' experience that in a certain percentage of cases the addition of phenobarbital will prevent the attacks when neither the diet alone nor the phenobarbital alone will control them.

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WHY IS THE MORTALITY OF APPENDICITIS INCREASING?*

BYRON B. DAVIS, M. D., F. A. C. S.,
Omaha, Nebr.

IN TWO PARTS—FIRST PART

We often hear the statement that the mortality of appendicitis is on the increase. To satisfy myself on this point I have made a study of the United States vital reports for the years 1900 to 1927, inclusive.

The number of deaths due to appendicitis in 1900 was 9.7 per 100,000 population. In 1910 it had risen to 11.4 deaths per 100,000; in 1920 to 13.4 deaths, and in 1927 it had reached the startling figure of 15 deaths per 100,000 population. This means the number of deaths from appendicitis in the United States had increased from 1900 to 1927 by 54.6 per cent.

That the increase has been steady and almost constant is shown by the following figures: Between 1900 and 1910 the increase was 17.4 per cent; between 1910 and 1920 the mortality had been augmented 17.5 per cent; and between 1920 and 1927 the increase was 11.9 per cent. As the last period was only 7 years it shows that for each decade the increase is approximately 17.5 per cent, and there is nothing to suggest any abatement of this bad showing.

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*Read before annual meeting, Nebraska State Medical Association, Lincoln, May 13, 1930.

The question has been raised that perhaps the increase in the appendicitis death rate may be due to the fact that diagnosis is becoming more accurate and in the past many cases were reported as dying of some other disease when the real cause of the death was appendicitis. This may explain a portion of the increase, but in view of the fact that during the last 15 years the health boards have been putting forth great efforts for exactness; and in spite of this the figures have been growing as steadily and as rapidly as before, one is forced to the conclusion that for the past quarter of a century the death rate from appendicitis has been steadily growing.

That a discussion of this subject is worthy of attention by an earnest body of medical men is proven by the fact that the number of deaths from appendicitis in the United States now surpasses all who die from gastric and duodenal ulcers, gallbladder disease, diseases of the spleen, ectopic pregnancy, salpingitis, pelvic abscess, and goiter combined. Before the age of 60 years there are annually in the United States 4,000 more deaths from appendicitis than from diabetes.

Granting that the mortality from appendicitis is increasing, is the increase due to a greater incidence of the disease, a greater virulency of the infection, or to poorer management?

The lack of records of the number of persons stricken with appendicitis makes an answer to the first question impossible. It is regrettable that the incidence of the disease is not reported, because definite data on this point would be immensely valuable. Inasmuch as the standards of living have not materially changed, my reaction is that we have no reason to suspect any increase in the number of cases of appendicitis.

The second question for consideration, regarding a possible increased virulency of the infection seems to receive a negative answer from the statistics of a number of large hospitals which are almost uniformly reporting a decreasing mortality from their complicated cases. Although the mortality from these severer cases is falling, the percentage of late complicated cases, perforation, gangrene, peritonitis, is growing larger. From these hospital records the rational deduction to be made would be that the increasing mortality is due to permitting a greater proportion of cases to slip from simple cases to complicated, by delay, and not to the infection being more virulent.

The answer to the third question puts our profession on the defensive. Gatch reports 205 consecutive cases of pus appendicitis, and of these only 39, or 19.5 per cent, came to him within 5 days of the beginning of the attack. The other 166 cases had been ill from 5 to 35 days before admission. With such a record of delay one need not be surprised at an increasing death rate.

The weight of evidence seems to be that out of a definite number stricken with appendicitis a greater number die now than would have died, out of the same number of cases the first decade of the century. If there has been no error in our reasoning thus far the conclusion follows that when a person falls ill with appendicitis today the chances of his dying are 54.6 per cent greater than his father would have had at the same age.

In trying to locate the blame for the increasing death rate there seem to be three phases of the management of appendicitis to discuss; or rather, there are three individuals who might be open to criticism:

1. The patient himself.
2. The physician first called.
3. The surgeon's responsibility in the case.

We have here all the elements which go to make up a case before the courts, except that the verdict arrived at will not be punitive, but may, I hope, result in some service to all three of the parties on trial. Let us take up their cases in the order named.

The patient has the most at stake and he should be heard first. There seems to be a tendency for the layman to look upon appendicitis with less alarm than in the years when it was much discussed. He has seen so many of his fellows recover promptly after an appendectomy that he has come to look upon the disease as rather trivial. He is all too apt to feel that if he does not recover soon from the symptoms and finds himself getting worse, it will be time enough then to call a doctor. His neighbor had just such an attack last year and got well with no doctor's fees, no operation.

Having reached this conclusion he proceeds blithely to do all he possibly can to defeat nature, who is trying to get him well. As we all know, the first thing nature does to relieve appendicitis is to stop peristalsis. The patient has been taught, or has grasped the idea out of the ether, that whenever his physical comfort is upset, a brisk cathartic will bring him back to normalcy. Poor Dame Nature, in her effort to protect by stopping peristalsis, is halted in her tracks as soon as the cathartic begins its deadly work. The intestines are thrown into violent peristalsis, the poor inflamed appendix is violently massaged.

and the infection increased and extended. The attempt to throw about the appendix a first line of defense by the prompt formation of cobwebby adhesions is made impossible and the infection is scattered broadcast. The great omentum, that wise abdominal patrolman, cannot wrap its protecting folds about the appendix because the violence of the peristalsis, stirred up by the accursed cathartic, will not permit the appendix to lie still long enough.

I am convinced that the patient's own delay in calling a doctor, plus his almost maniacal haste to clean out his intestinal tract, must bear a large share of the responsibility for the increasing death rate from appendicitis. But we are not going to be so unsportsmanlike as to pass all the buck to the patient; for, after a serious effort to fix the blame where it belongs, I am satisfied the other two sides of the triangle are also guilty, and more to be blamed than the patient, because they ought to know better.

Of late years papers on appendicitis before medical societies have been chiefly conspicuous by their absence. This was not true at the opening of the century. Then, at almost every medical gathering of note, there would not be a single paper, but an important symposium on appendicitis, participated in by men of note, with a red hot discussion lasting all the afternoon. Medical men were kept alert in those days and were appendicitis minded. If they were called to see a patient with abdominal symptoms the first thought was of appendicitis and they were not satisfied till it could be ruled out. And, if appendicitis was diagnosed, there was no waiting, no tentative delay of a day or two to see if an operation could be avoided, but the case was put before the patient fairly and immediate preparations made for operation.

It is probable that at the present time the majority of physicians act as promptly and zealously as formerly, but it is only natural that a disease which seems so unimportant from the fact that it is so rarely discussed, would appeal with less force than when it was given first place on every medical program. All men are prone to forget, to grow lukewarm about a thing that seems to have been put on the shelf. Is it any wonder then that cases are sometimes sent to the surgeon with a rather wide hiatus between the time first seen medically and the time operation is advised? When the case is apparently mild and the doctor knows it is a very inopportune time for the patient to go to the hospital, it is no wonder that occasionally valuable time is lost, especially when it is so well known that many of these cases recover temporarily without appendectomy. But when a case thus conservatively treated becomes worse he is rushed to the hospital, not a simple case with a probable zero mortality but as a complicated case with a mortality expectancy of from 5 to 25 per cent, or even more.

Sometimes the doctor is uncertain about the diagnosis, and, since most cases of appendicitis are constipated, he decides the whole trouble may be due to constipation, and gives a cathartic. I do not believe any doctor would wilfully give a cathartic if he knew the patient had appendicitis. The point I wish to make is that until appendicitis has been ruled out positively, the use of a cathartic is unjustifiable.

I cannot feel that in our efforts to fix the responsibility for the increasing mortality of appendicitis the doctor first called can be fully acquitted. His skirts are somewhat smirched, but am inclined to think he is the most innocent of the three.

The third defendant before the court in this inquiry, the operating surgeon, has a good deal to answer for. First, it is his peculiar function to keep the subject of appendicitis alive, to devise means to get over to the general public the dangers of delay in calling a doctor; also to keep the medical profession fully awake to the difference between the result when a case is operated while the infection is still located within the appendix, and the same case as it may be a few hours later when it has become gangrenous, perforated or diffuse peritonitis has begun. It seems to me the surgeon has more responsibility than that which he assumes when an individual case is put into his hands for treatment; that the surgeons should report and make recommendations from time to time to the other members of the profession. The surgeon alone has frequent opportunity to study the living pathology at all stages of acute appendicitis. He ought to be able to offer valuable suggestions relative to the diagnosis and treatment.

As soon as a case has been turned over to the surgeon his responsibility becomes very personal and very grave. Suppose the case arrives at the hospital in the night, say about midnight. He cannot argue that his responsibility will not begin until the time of his regular visit the following morning. As soon as the doctor referring the case sends the patient to the surgeon he shifts his responsibility from his own shoulders to the shoulders of the surgeon chosen. The shift of responsibility is immediate and absolute and there is nothing in our code which permits such a patient to pass a night in which all professional responsibility is lost.

A simple acute appendicitis arriving at the hospital between the hours of 10 p. m. and 3 a. m. may be, on arrival, the type of case that ought to produce practically 100 per cent of recoveries. Perhaps between the hour of arrival and 8 or 9 o'clock the next morning the pathology may remain in statu quo. But pathology does not usually act that way. Very likely during those waiting hours the case may progress from a simple appendicitis to one complicated by gangrene, perforation, diffuse peritonitis with a mortality under the best management of 5 to 25 per cent or more. If this happens, who is to be blamed? Not the patient, who has called a doctor in good time; surely not the doctor first called, for he has passed the patient along to the surgeon in a favorable condition. If the surgeon received the case in a favorable condition and elected to pass the night in bed, there is no means under Heaven that he can dodge. I hold that no surgeon, unless too ill to leave his bed, and under such a state he should call a satisfactory substitute, has any right to permit the remainder of the night to pass without seeing that patient. If, on examination, he finds that it is acute appendicitis, there is no means yet known to man to determine that the simple case will not become a complicated case before morning. His responsibility cannot be escaped unless he operates at once. All of us who see many of these cases often meet with those who can be operated safely and closed without drainage, but an incipient gangrene or impending perforation is discovered which would surely produce a catastrophy within two or three hours. Suppose such a case had been delayed till morning, danger to life would have been immensely increased and at least a doubling of the days of invalidism, drainage would probably have to be used, thus leaving behind many peritoneal adhesions, likely to produce more or less chronic invalidism for the remainder of the patient's life, with perhaps at sometime, an acute intestinal obstruction. All these things might result from a surgeon's indolence and no surgeon's shoulders are broad enough to carry that responsibility, and no surgeon has a moral right to attempt to do so.

"Nero fiddled while Rome was burning." I apologize to Mr Nero for making this quotation. The burning of Rome meant mere material loss. To fiddle while one's patient is suffering from appendicitis means the jeopardy of a human life.

When we stop to realize that when anyone dies of appendicitis it means that, in all likelihood, someone in the three-linked chain has blundered, it ought to make each one of us resolve that he will discharge his one-third of the responsibility so well that he cannot be charged with any neglect of duty, and that the death cannot justly be laid to his door. The sooner we get back to the old idea, the idea that prevailed before the 54.6 per cent increase in the mortality had occurred, that as soon as the diagnosis of acute appendicitis is made the operation should be done the better it will be for the reputation of the medical profession.

A general indictment of the patient, the family physician, and the surgeon, because of the increasing mortality of appendicitis would be futile without a really constructive discussion of ways and means to stop it. This is a hard task, a task in which I shall probably fail, but it is worth trying.

In making an early and correct diagnosis of acute appendicitis a careful inquiry into the exact manner the symptoms began, and the order in which they developed, together with a record of any previous attacks of a similar nature are of so much value that they almost make the diagnosis. Your view of the patient as you enter the sick-room often adds a great deal of information. Note his facial expression. Is he lying still or tumbling about in bed? If the former, in all probability his trouble is inflammatory; if the latter it is just as surely mechanical. If he lies quietly with the right thigh flexed the suspicion of appendicitis is likely to be confirmed on further examination. If one never neglects the history and the information gained by a careful inspection, it will avoid many errors.

The first symptoms at the onset of an attack are usually mechanical and act through the nervous system. As a rule the attack is precipitated by a fecalith in the lumen of the appendix becoming lodged at the base and producing a mechanical obstruction. This sets the appendix into violent contractions in its effort to eject the fecalith into the caecum. The phenomenon is exactly the same as in a gallbladder colic, when a stone is impacted in the cystic duct, or in nephritic colic when a stone lodges in the ureter. Sometimes, probably oftener than supposed, the contractions are successful and the fecalith is dislodged and propelled into the caecum before infection has begun. In this event the attack suddenly ceases, the pain is over, the trouble having been nothing but an appendicular colic.

The first stage, or stage of colic, is manifested at first by pain, not in the appendiceal region but in the epigastric or umbilical region, and is due to a reflex impulse via the tenth, eleventh and twelfth dorsal segments. This first pain differs from that later on, it being of a spasmodic colicky character.

Soon after the initial pain there is usually some nausea and vomiting. It is well to bear in mind that the initial vomiting is purely reflex via the solar plexus and is comparable to the vomiting which occurs in nephritic colic.

The second stage of appendicitis begins when the mechanical obstruction of the first stage has resulted in definite inflammation. The infection is situated primarily in the mucous membrane; except in the rare cases caused by a hematogenous infection being lodged in the wall of the appendix. From the mucous membrane the infection invades the appendiceal wall, through to the peritoneal covering. The second stage is characterized symptomatically by cessation of the initial epigastric pain and reflex vomiting, and migration of the pain to the right lower quadrant. The character of the pain changes with the location. It is no longer griping, but has a deep burning quality. At the same time tenderness and muscle spasm are found in the right iliac region, most intense at the McBurney point, if the base of the appendix is normally situated. The patient does not yet look very sick but is seen to relieve the tension of the right abdominal muscles by flexing his right thigh, and resents having his bed jarred, wishes to lie quiet. The temperature is likely by now to be 99° to 100°, the pulse 80 to 90, and the total leucocyte count may be 12,000 to 18,000 with the polys 70 to 80 per cent.

This is the stage when appendectomy can be done with a mortality of almost zero per cent. Every effort ought to be put forward by patient, physician and surgeon to secure operation while the infection is yet localized in the appendix and prevent the third and fourth stages, with all their dangers to life and future health. Failure to do this seems to be the answer to the question, "Why is the mortality of appendicitis increasing?"

The third stage may or may not be ushered in by a chill. The pulse usually becomes more rapid and the temperature is apt to rise to 101° or even to 103°. In many cases vomiting, which had ceased during the first stage and did not occur in the second stage, recurs in the third stage. Please bear in mind the vomiting now is of entirely different significance than the referred vomiting of the first stage. The emesis of the third stage is due to toxaemia and is of much graver import. By now the patient is obviously sick. His face is drawn and anxious, his mouth is dry and tongue coated. The tenderness and rigidity of the second stage have become more intense. The leucocyte count has probably risen to 16,000 to 25,000 and the polys to 80 to 90 per cent.

The changes of the symptoms in this stage are due to the progressing pathology. The appendix has perforated, localized peritonitis has developed, and, if a barrier of protective adhesions has fortunately formed, a localized abscess is in process of formation. If the appendix has become gangrenous, its wall has become like a sieve even before it has had time to disintegrate and the micro-organisms are free to do their will in the adjacent peritoneum. The third stage, then, marks the period when the infection ceases to be limited to the appendix itself and invades contiguous tissues.

The fourth stage is marked by an expression of severe illness. The face assumes a drawn, shrunken appearance, the Hippocratic countenance. Abdominal tenderness may still be greatest in the right iliac fossa, but there is a diffuse tenderness over much or all of the abdomen. The abdomen is more distended, the vomiting becomes more troublesome. The vomiting at this stage is more regurgitant and less expulsive. At the beginning of this stage peristalsis is yet present, and manifests itself by causing griping pain and regurgitant vomiting. Later peristalsis ceases, there is no longer griping pain and the vomitus comes without expulsive effort.

This stage is manifested by the presence of diffuse peritonitis, which means that nature has not been able to build a barrier of adhesions sufficiently strong to keep the infection localized within the appendiceal fossa. It must be recognized that occasionally, because of a particularly malevolent organism or a patient with poor resistance, the spreading of the peritonitis could not have been prevented, except by an exceedingly early appendectomy. Nine times out of ten the occurrence of diffuse peritonitis is preventable.

The blind use of the icebag, admirable in itself, is like morphine; it lulls the observer into a dream state of fancied security while the pathological process advances unchecked and unheeded. Another accursed factor in preventing the formation of limiting adhesions and breaking them down when once formed, is the reckless and unwarrantable use of deadly cathartics. The Fowler position for all cases under suspicion and to bridge over the interval between diagnosis and operation would do much to prevent the infection from becoming diffuse.

Fortunate is the physician who sees the case while the infection is still confined to the appendix. It is then that by a prompt diagnosis and a clear and straightforward presentation of the conditions to the patient and family, he can turn the case to the surgeon in a condition that ought to have a 100 per cent successful outcome.

(To be continued)

THE MEDICAL EXPERT IN COURT*

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Medical testimony as given in court today is highly unsatisfactory—the layman who fails to understand all the factors involved is apt to say that it is a disgrace to the medical profession. He sees two experts of equally high standing on opposite sides, each swearing to the truth of statements which are flatly contradictory and often diametrically opposed.

The effect of such a spectacle on judge, jury and the public at large is bewildering, while on the standing of the experts and on the importance attributed to their testimony, it is disastrous, they are thought to be venal, their testimony biased, and as a consequence it is often *disregarded*. This reflects to a certain extent on the entire medical profession.

But as long as the expert is called into a case as he is today by the contending parties he will be a partisan in spite of his most determined effort to be fair and unbiased and to state the truth. It is true there are unscrupulous men who will give testimony as required and against their better knowledge, but in justice to the medical profession it must be stated that they are the exception.

The expert is called into the case by one side of the other—plaintiff or defense; he hears practically only the facts as they appear to that side. If facts exist that do not fit into the respective theory of the side on which he finds himself his advice is often sought only as to how to minimize or nullify these facts unfavorable to the case. Even the most independent and conscientious expert under these circumstances is liable to become infected with the partisan spirit. Even more powerful is the unconscious emotional factor which makes all of us view our side with a strong bias which strengthens the arguments favoring and weakens those opposing.

It is often overlooked that the relation of the expert to a case is very different from that of counsel. The lawyer in a case has the duty to see it only from his clients side, and to recognize the strong points of the opposite side only in order to combat them. Even the prosecuting attorney, though theoretically interested only to see that justice is done, as a rule wants to convict.

But the medical expert, though called by one side or the other to help its case, has only the ground of his professional knowledge on which to stand safely. He is supposed to explain facts that are not ordinarily evident to the average man, and to express his opinion based on the facts, but all the facts, backed by his knowledge.

I might illustrate the dilemma of the expert by referring to a recent case where I was asked to testify for the plaintiff for an action for compensation. The other expert, a prominent and highly respected surgeon, testified that the patient had fully recovered from her injuries and that all compensation might cease, while I stated that the doctor's testimony was substantially correct as far as the plaintiff's injuries were concerned but that she was still suffering from a traumatic neurosis resulting from the injuries and, therefore, entitled to further compensation. Would it not have been much more helpful for those who had to decide the case if both surgeon and neurologist had gotten together, considered and weighed all the factors in the case and reported their findings to the court? We doctors in clinical conference can, as a rule, come to some agreement on a case—why must we be contradictory and often evasive when we get on the witness stand?

I trust that these brief remarks will help to bring before you, once more, the evils of our present handling of expert testimony which all of you who have had or heard experts testifying have experienced at first hand many a time.

I can assure you that the expert himself is only too keenly conscious of the quandary in which he finds himself. He does not approve of the present system, but he feels that he is duty bound to serve with his knowledge. He is much in the situation of the millionaire socialist who does not believe in capitalism but things being as they are he holds on to what he has.

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*Read at the annual meeting of Dodge County Bar Association, at Fremont, January 10th, 1931.

While we all admit that expert testimony as it is given at present is unsatisfactory, we must not overlook the fact that the trouble is not with the expert testimony itself, but that it arises from the way in which the expert is called and the manner in which his opinion is obtained. Realizing this, some of our states have already passed laws which attempt to do away with these undesirable features of expert testimony.

Of all the laws applying to the employment of medical experts in criminal cases that of Massachusetts is without a doubt the most advanced, and in its working—it has now been in force since 1921—the most satisfactory. It is little short of revolutionary inasmuch as it provides automatically for the study of delinquents by psychiatrists in certain cases. Its main provision is that when a person is indicted by a grand jury for a capital offense or whenever a person who is known to have been indicted for any other offense more than once, or to have been previously convicted of felony is indicted by a grand jury, the department of mental disease of the state shall determine the existence of any mental condition which would affect his criminal responsibility. The department appoints two psychiatrists, one of whom is usually connected with the department, their report is available to all parties and the psychiatrists may be summoned into court by either side to testify if this is desired.

"The important point is that this examination is applied as a routine to certain groups and made whether counsel intends to resort to the defense of insanity or not."

"In the first five years 295 cases have been examined by the department and, contrary to the flippant statement often made that psychiatrists, if given their own way, would find all offenders 'crazy', only 21% were found insane, mentally defective, or having a psychopathic personality."

But while this law is ideal it is not applicable to our conditions. Massachusettes is an old and wealthy state, with highly developed institutions for the study and treatment of all forms of abnormal mental conditions, and it has a highly organized department of mental disease with a large trained staff of psychiatrists, psychologists and psychiatric social workers who are available for the study of these cases. For our state to adopt this law would involve the expenditure of large sums of money to set up the machinery for carrying out such a law and is entirely out of the question.

In New York a law has been recommended to the legislature by the Baumes crime commission, which provides that in all cases in which the issue of mental disease is raised, three or five recognized experts be appointed, one or two to be chosen by the defense, one or two by the prosecution and the final number to be selected by the court from among five nominated by the psychiatrists already selected. If, after a thorough examination, the report of the board is unanimous it will be received as conclusive evidence, if not unanimous it will be considered prima facie evidence, subject to rebuttal. Neither the defendant nor the people may call any member of the commission as a witness if the report is not unanimous, but either party, may call not exceeding two other psychiatrists as witnesses and the other side may then call an equal number. In that event the court may appoint the same number of disinterested psychiatrists and the examination by each of the psychiatrists shall be in the presence of all the others at all times.

This procedure except that it appears to be rather unwieldy on account of the number of psychiatrists that are to examine the defendant and testify in court, undoubtedly, provides for a commission of experts that is as free from partisanship as is possible.

The Colorado law is interesting as it specifies not only the place where the defendant shall be examined, but also the length of time he shall be under observation. It also, like the New York law, becomes operative only if the defense of insanity is made. In this case the judge commits the defendant to the Colorado Psychopathic Hospital at Denver or the State Hospital at Pueblo, where the defendant shall remain under observation for a period specified by the judge but not to exceed one month. The judge may also appoint a commission of one or more physicians, specialists in mental disease, to examine the defendant during said period, and the court may call and examine said physicians at the trial, and either the state or the defendant or both may call these physicians as witnesses. But this shall not preclude the state or the defendant from using other physicians. This law also is not readily applicable to our state because we have no psychopathic hospital and the state hospitals, with the possible exception of the one at Lincoln, are located away from the center of population of our state.

From our point of view the law which comes nearest to our needs and which would be the most economical to administer is the California law. It has the further advantage that it does not apply to criminal cases only but to all cases where medical expert testimony is required. It resembles in this respect the Rhode Island law of 1896 which, as far as I have been able to find out, is still in force and which goes even a step further and provides for the appointment by the court of one or more disinterested skilled persons in any case where expert testimony of whatsoever kind is required.

The provisions of the California law are these:

When it appears either before or during the trial of any action, civil or criminal, that expert evidence is or will be required by the court or any party to such action, the judge may on motion of any party or on its own motion, appoint one or more experts to investigate and testify at the trial.

Further, the court may fix the compensation of such experts at such amount as to the judge may seem reasonable. In all criminal actions such compensations shall be charged against the county. In all civil actions such compensation shall be charged to the several parties and allowed in like manner as other witness fees.

Now this next provision is important, because it provides that nothing in this section shall be construed so as to prevent any party to the action from producing other expert evidences, but where other expert witnesses are called by the party to the action, they shall be entitled to the ordinary witness fee only.

Another provision to this law is that any expert so appointed by the court may be called and examined as a witness by any parties to such action or by the court itself, but when called shall be subject to examination and objection as to his competency and qualifications at an expert witness and to his bias. Such expert, though called and examined by the court, may be cross examined by the several parties to an action in such order as the court may direct. When such witness is called and examined by the court the several parties shall have the same right to object to the questions asked and the evidence adduced as tho such witness were called and examined by an adverse party.

And finally this law provides that the court may at any time before the trial or during the trial limit the number of experts to be called by any party.

I believe that some law bringing expert medical testimony more into line with modern standards should be adopted for our state by the legislature now in session and you men of the legal profession should give it your strongest support.

Thank you.

PROGRESS OF SURGERY

Review of the Literature of the Last Half of 1930

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THORAX

In the last few years there have been many articles on post-operative lung complications. Most authorities now agree that hypoventilation of the lungs with lessened chest expansion, lessened diaphragmatic movement and lowered vital capacity are responsible in most cases. Overholt(1) found a 75 per cent diminution of chest expansion after operation. Also, he found that the vital capacity was reduced 64 per cent following operations on the upper abdomen and 40 per cent following lower abdominal operations. Thoracic operations were not accompanied by such an extensive reduction of vital capacity, which was low previous to operation. Studies were made to find any influence on the vital capacity of the patient's position in bed. The vital capacity was decreased less than 4 per cent in going from the semi-Fowler to the horizontal position. A tightly fitting abdominal binder applied post-operatively reduced the vital capacity 15 per cent. Morphine, post-operatively improved the vital capacity by practically relieving pain. On the other hand, morphine caused a slight depression in preoperative patients. Spinal anaesthesia caused a reduction of vital capacity while the intercostal muscles were not functioning, but a return to the normal took place after the anaesthesia wore off. If an abdominal operation was done under spinal anaesthesia, the operation itself caused a marked reduction in vital capacity. After the disappearance of the effects of the spinal anaesthesia, the reduction was still more.

Normally there is a subatmospheric pressure in the upper abdomen. Opening the abdomen lets this become atmospheric pressure and with the negative pressure in the pleural cavity the diaphragm is elevated. Therefore, the hypoventilation postoperatively is considered due to splinting of respiratory musculature due to pain, and also due to increase in intra-abdominal pressure. To overcome these he advises the free postoperative use of morphine, contrary to the belief of Jackson, Bowen and others, who fear its action on abolishing the cough reflex. The administration of carbon dioxide, as suggested by Henderson and Haggard, he states is the most effective method of increasing pulmonary ventilation. He suggests at an abdominal operation to fill the abdomen with normal saline to displace the air and as the abdomen is closed, to remove this fluid by suction. This latter method, however, is too new for Overholt to make any positive statements about it.

A rather extensive research on the co-administration of carbon dioxide with nitrous oxid in anaesthesia, with blood chemistry, was done at the University of Toronto by Brown, Henderson, Kennedy, and Lucus(2). They found that substitution of 5 per cent carbon dioxide for 5 per cent nitrous oxide increases usually the amount of oxygen carried by the blood stream. This is of the very greatest importance in nitrous oxide anaesthesia where the danger lies in an inadequate supply of oxygen reaching the cardiac muscle in prolonged anaesthesia. The oxygen supply can be improved without decreasing the anaesthetic depth. This should be of great value in those cases in which morphine and hyoscin premedication has led to a decrease in the depth of respiration. It should also contribute to the avoidance of pulmonary atelectasis.

Dog experiments to determine the effect of spinal anaesthesia on cardiac output, by Burch and Harrison(3), showed that the initial change is, as would be expected, on arterial pressure, and that the venous return and output of the heart are affected secondarily. In hemorrhage, on the contrary, the cardiac output decreases first, and is already reduced by from one-third to one-half before a significant decline in arterial pressure occurs. These observations probably explain why a low blood pressure due to hemorrhage is a much more serious sign than a similar blood pressure in a patient under spinal anaesthesia. The lowering of blood pressure under spinal anaesthesia is probably analagous to that occurring in primary shock, or collapse, or in ordinary syncope.

A very careful study of 101 cases with bone metastasis, secondary to carcinoma of the breast was made by Carnett and Howell(4). They found metastases most commonly in the ribs, sternum, shoulder, girdle, vertebrae, pelvic bones, humeri, and femora. Metastases were never below the elbow or knee, unless the bones of the arm or thigh were first involved. The authors made a very careful study of the lymphatic involvement in these cases and make a very strong argument in favor of lymphatic permeation as the method of dissemination.

THYROID

McCarrison(5) made a survey of 2,651 albino rats in a locality (Coonoor), where goitre is not endemic. At post-mortem, 148 cases were found to have goitre. This developed more in spring and summer. The incidence was higher in females and commonest at the age of sexual maturity. Faulty food, deficient in vitamins, was the direct, or the indirect cause of the goitres. Iodine fed to rats, which were deficiently fed in vitamines did not prevent goitre but, on the contrary, made it more common.

ALIMENTARY TRACT

Berg and Jobling(6) studied twenty-three dogs with various types of biliary exclusion. Thirteen of these developed peptic ulcers. They think the ulcers are due probably to the loss of some constituent in the bile which is essential for the maintenance of an intact surface epithelium. This component is probably mucus. They suggest that if peptic ulcers are associated with deficiency of the liver in man, the administration of liver may be of therapeutic value.

Murphy(7), in ten animals, found that the production of experimental acute cholecystitis, prevents the gallbladder from emptying after the usual test meal. The intravenous injection of eusol was found to produce acute inflammation of the gallbladder in a high percentage of tests.

Snider and Reinold(8), find that the type of direct Van den Bergh reaction in serum depends on the concentration of bilirubin. An immediate reaction is associated with a high icteric index and a delayed Van den Bergh with a low icteric index. The Van den Bergh reaction changed from negative to delayed, then to biphasic, and finally to immediate, as increasing amounts of bilirubin were added to human serum. The temperature of the reacting materials was also shown to be an important factor.

Ravdin, Riegel, and Morrison(9) discuss methods of decreasing the bleeding tendency in jaundiced patients. They find that glucose is much more effective than calcium. They think that possibly glucose might stimulate the formation of fibrinogen. Fibrinogen is probably formed by the liver. If the liver is irrepairably damaged or after hepatectomy, glucose has no effect on coagulation time. The explanation is difficult to understand, as giving glucose causes no increase in the blood fibrinogen. Also, the method in vogue of giving calcium preoperatively is hard to understand, as the authors state that these patients have a normal blood calcium.

Gabriel(10) suggests in cases of choledochostomy to inject lipiodol through the tube into the common duct and taking a roentgenogram to show any possible obstruction of the common duct, before the tube is withdrawn. He shows plates of such a case.

White and Fender(11) kept a dog with a complete high intestinal obstruction alive and in good condition by preventing the loss of digestive secretions, these being immediately reinjected into the lower unobstructed bowel. They consider it unlikely that any potent toxin is the cause of death; otherwise, life would have been shortened rather than prolonged by the reinjection of the obstructed secretions. They think death in uncomplicated high obstructions is due mainly to loss of salt and water, possibly also to other substances in the gastroduodenal secretions.

Scott and Morton(12) consider the motor anomaly in at least one type of megalocolon is dependent upon sympathetic inhibition. Spinal anaesthesia has produced temporary motor activity of the colon in two cases of Hirschsprung's disease and in experiments on animals. They propose the use of a spinal anaesthesia as a test to determine the sympathetic factor, before advising a sympathetic ganglionectomy.

UROLOGY

Experiments on the post-operative function after renal resection were performed on 37 dogs by Herbst and Polkey(13). They found that renal resection in the dog always reduced the weight and phthalein function, in proportion to the decrease of secreting renal tissue. Resection of small amounts of renal substance did not affect the health of the dog, or cause compensatory hypertrophy of either the resected, or the opposite healthy kidney. Renal fistula did not occur, and hemorrhage was rare.

GYNECOLOGY

An analysis is made by Counseller and Stacy(14) of 980 patients treated surgically at the Mayo Clinic, for prolapse of the uterus. The mortality was 1.62 per cent. In the child bearing period they used either a modified Gilliam technic, or other methods of round ligament shortening, combined with vaginal plastic operations. Satisfactory results were obtained in 88.57 per cent. Past the child-bearing period they used the Kocher abdominal fixation operation, the Mayo vaginal hysterectomy, or the Watkins-Wertheim interposition operation. The Kocher ventro-fixation operation is reserved for the senile, the poor surgical risks, and those who previously have had a hysterectomy with prolapse of the cervical stump. This gave satisfactory results in 94.87 per cent of cases. With a normal sized uterus and moderate cystocele, the interposition operation was performed with satisfactory results in 96.61 per cent. With extensive prolapse and large cystocele, the Mayo vaginal hysterectomy was done and was satisfactory in 97.22 per cent. It was employed in 81 per cent of the patients who had passed the menopause.

In a preliminary study of genital hypoplasia, Meaker(15) found this to be common, and a major factor in the causation of sterility. The immediate cause of such hypoplasia is most commonly an insufficiency of the anterior lobe of the pituitary, which is the motor of the ovary. The diagnosis of incipient, or threatened hypoplasia in adolescent girls depends first on abnormal menstrual behavior, especially delayed menarche, and, secondly, on depressed constitutional factors, both endocrine and non-endocrine. The treatment in this stage is hygienic and the administration of anterior lobe of the pituitary, and occasionally thyroid, but never the ovary. Treatment of this condition in the adult is unsatisfactory.

NEUROLOGY

Morton and Scott(16), in a study of the lumbar sympathetic nervous system, advocate spinal anaesthesia as a test for the degree of functional involvement. This test will permit the proper selection of cases for sympathectomy. This test is especially good in Hirschsprung's disease, and for vascular diseases of the lower extremity, and is of great value in the differentiation of true pain of sympathetic origin from psychoneurosis. Lumbar sympathetic ganglionectomy provides improved circulatory conditions in club foot, due to spina bifida, and in trophic ulcerations.

Adson, O'Leary and Brown(17) have studied the effect of resection of the sympathetic ganglia and trunks on cases of scleroderma, in whom this condition is related to a vascular disturbance, manifested by chronic hyperactivity of the sympathetic nerves supplying these regions. The surgical results depend on the vascular relaxation accomplished. Hence, it is important to make a careful selection of patients who present vasospastic phenomena. It is unwise to operate in the advanced cases, which fail to respond favorably to the vascular tests. Operative procedures should be instituted early in the course of the disease. in the phase resembling Raynaud's disease, in order to check the disease and improve the symptoms.

Learmonth and Brash(18) discuss the functions of the nerves to the bladder, and the nervous control of the bladder. They describe a case in which the presacral nerve was resected for the treatment of cord bladder. In view of the part played by this operation, in eliminating residual urine, the possibility is raised that the hypogastric nerves carry inhibitory influences to the bladder.

MISCELLANEOUS CONDITIONS

Holman(19) avulsed the auriculotemporal nerve in two cases for the cure of persistent parotid fistula, with excellent results. This is based on the fact that secretory fibers in this nerve stimulate the gland to produce copious, thin, watery saliva, whereas, stimulation of the sympathetic fibers, which follow the external carotid artery, produces a thick viscid, and scanty saliva. This operation is only intended when other operations are not indicated. Immediate wounds of Stenson's duct should be repaired by resuturing the duct, or by stitching the central end to a new opening on the inside of the cheek.

Bower, Clark and Davis(20) have made a review of the literature on giant cell sarcoma of vertebrae. There were twenty-eight cases in the literature. Trauma was mentioned as a causative factor in 33.3 per cent, pain was severe at the site of the lesion in 55 per cent and was referred in 33.3 per cent. Paralysis of the lower extremities was present in 26 per cent; weakness in 18; anaesthesia in 26, and abnormal reflexes in 33.3 per cent. A mass was visible in 75 per cent and kyphosis was present in 18 per cent. There were eight deaths. in all, a mortality of 28.5 per cent. There was a definite recurrence in eleven cases. Two cases seemed to have metastases. They concluded that the best treatment is the insertion of radium into, or near the growth with as little trauma as possible.

After studying a group of cases with painful scars after operation, Bancroft(21) concluded that injuries to nerves in abdominal incisions followed by neuromas are more prevalent than is generally recognized. They are probably often produced by ligating a blood vessel with its accompanying nerve. Diagnosis of a neuroma may be made by testing out the sensory distribution of a nerve and by causing a cessation of the pain, by blocking the nerve with procaine. Incisions for abdominal exposure should be planned to avoid trauma to nerves. Mass ligatures of vessels in the vicinity of nerves should be carefully avoided.

Mason and Koch(22) discuss the anatomical routes of spread of human bite infections of the hand, the clinical course and treatment. When introduced into the dorsum of the hand, the most common site, they tend to spread to definite areas. In order of frequency, the spread is to the subcutaneous space of the dorsum of the hand, the subfascial space of the dorsum of the proximal phalanx, the subaponeurotic spaces of the hand and fingers, which lie directly over metacarpal bones and proximal phalanges, the metacarpophalangeal joint, the fascial spaces of the palm and flexor tendon sheaths. They should be drained early before extensive necrosis of tissue takes place, or bone, joint, and tendon involvment are certain to occur and lead to extensive impairment of function.

An anatomical study of the tendon sheaths of the foot in relation to infection is made by Grodinsky(23). The involved sheaths must be drained and also any fascial spaces, which may be secondarily affected, as described in a previous article by the same author. Incisions are best made directly over the sheaths. For the digital sheaths the skin incision should begin just proximal to the distal interphalangeal joint and continue to, or almost to the neck of the metatarsal bone. The interphalangeal and metatarsophalangeal joints should be skipped to prevent prolapse. The long flexor tendon sheaths should be drained by incisions directly over and behind the medial malleolus. The annular ligament should be cut. The common peroneal tendon sheath is opened by an incision parallel to it, just behind the lateral malleolus, cutting the lateral annular ligament. If there has been spread into the plantar sheath, it also should be opened. The sheaths of the extensor tendons are drained by incisions directly over them, cutting the annular ligament.

Smithwick and White(24) use alcohol injection of the peripheral nerves to relieve pain in the lower legs, secondary to obliterative vascular disease. This can be accomplished without paralysis of any important muscles of the leg or foot. The relief of pain has been responsible for the saving of 6 out of 11 legs otherwise doomed to amputation.

Arteriography, which has not been generally used in practice because of troublesome reactions, is performed safely by Saito, Kamikawa, and Yanagizawa(25) by means of a mixture of lipiodol. lecithin and honey. This study is valuable in the diagnosis of various circulatory conditions. It has been used to observe the course of arteries in fractures and dislocations; to determine the amputation site in vascular disease of the extremities: to note the site and extent of the collateral circulation after amputation of an extremity, in arterial encephalography; also in local blood conditions, as aneurism, varices and venous valve defects.

Ude and Platou(26) have made a comprehensive analysis of 402 hospitalized cases of erysipelas. The methods of treatment giving the best results were roentgen irradiation, or ultra-violet irradiation with or without erysepelas antitoxin. The treatment they favor above all others is ultra-violet irradiation. This produced a clinical arrest of the disease with the first treatment in 92 per cent of the cases.

Albee and Patterson(27) think that the good results obtained by the Orr treatment of osteomyelitis is to the development of a specific bacteriophage in the pus. This combats the infection and so Albee does not use disinfectants on these wounds, which would tend to destroy the bacteriophage. They have recovered specific bacteriophage from the pus.

BIBLIOGRAPHY

1. Overholt, R. H.: Postoperative Pulmonary Hypoventilation; J. A. M. A., 1930, 95, 1484-1488.

2. Brown, W. E., Henderson, V. E., Kennedy, A. S., and Lucas, G. H. W.: On the Co-Administration of Carbon Dioxide With Nitrous Oxid in Anesthesia; Anesthesia and Analgesia; 1930, 9, 136-139.

3. Burch, J. C., and Harrison, T. R.: The Effect of Spinal Anesthesia on the Cardiac Output; Arch. Surg., 1930, 21, 330-332.

4. Carnett, J. B., and Howell, J. C.: Bone Metastasis in Cancer of the Breast; Ann. Surg., 1930, 91, 811-832.

5. McCarrison, R. A.: Goitre Survey in Albino Rats; Brit. Med. J., May 31, 1930, 989-992.

6. Berg, B. N., and Jobling, J. W.: Biliary and Hepatic Factors in Peptic Ulcers: Arch. Surg., 1930, 20, 997-1015.

7. Murphy, G. T.: The Effect of Acute Experimental Cholecystitis on the Emptying of the Gallbladder: Arch. Surg., 1930, 21, 300-312.

8. Snider, H. F., and Reinold, J. G.: A New Interpretation of the Van den Bergh Reaction; Am. J. Med. Sc., 1930, 180, 248-255.

9. Ravdin, I. S., Riegel, C., and Morrison, A. B.: Coagulation of Blood: Ann. Surg., 1930, 91, 801-810.

10. Gabriel, W. B.: Proof of Patency of a Common Bile-Duct; Lancet, 1930, 218, 1014-1015.

11. White, J. C., and Fender, F. A.: The Cause of Death in Uncomplicated High Intestinal Obstruction; Arch. Surg., 1930, 20, 897-905.

12. Scott, W. J., and Morton, J. J.: Sympathetic Inhibition of the Large Intestine in Hirschsprung's Disease: J. Clin, Investigation: Oct., 1930, 9, 247-262.

13. Herbst, R. H., and Polkey, H. J.: Renal Resection; An Experimental Study of Post-Operative Function; Surg. Gyn. and Ob., 1930, 51, 213-216.

14. Counseller, V. S., and Stacy, L. J.: Results of Various Operations for Prolapse of the Uterus; J. A. M. A., 1930, 95, 983-988.

15. Meaker, S. R.: Studies of Female Genital Hypoplasia; J. A. M. A., 1930, 95, 468-470.

16. Morton, J. J., and Scott, W. J.: Studies on the Activity of the Lumbar Sympathetic Nervous System; Ann. Surg., 1930, 92, 919-930.

17. Adson, A. W., O'Leary, P. A., and Brown, G. E.: Surgical Treatment of Vasospastic Types of Scleroderma by Resection of Sympathetic Ganglia and Trunks; Ann. Int. Med., 1930, 4, 555-568.

18. Learmonth, J. R., and Braasch, W. F.: Resection of the Presacral Nerve in the Treatment of Cord Bladder; Surg. Gyn. and Ob.; 1930, 51, 494-499.

19. Holman, E. F.: The Treatment of Persistent Parotid Fistulae by Avulsion of the Auriculo-temporal Nerve; Surg. Cl. N. Amer., 1930, 10, 1055-1058.

20. Bower, J. O., Clark, J. H., and Davis, L.: The Management of Giant Cell Sarcoma of the Vertebrae; Arch. Surg.; 1930, 21, 313-329.

21. Bancroft, F. W.: Painful Postoperative Abdominal Scars; Arch. Surg., 1930, 21, 289-299.

22. Mason, M. L., and Koch, S. L.: Human Bite Infections of the Hand; Surg. Gyn. and Ob., 1930, 51, 591-625.

23. Grodinsky, M.: A Study of the Tendon Sheaths of the Foot and Their Relation to Infection; Surg. Gyn. and Ob., 1930, 51, 460-468.

24. Smithwick, R. H., and White, J. C.: Elimination of Pain in Obliterative Vascular Disease of the Lower Extremity; Surg., Gyn., and Ob., 1930, 51, 394-403.

25. Saito, M., Kamikawa, K., and Yanagizawa, H.: A New Method of Blood Vessel Visualization (Arteriography; Veinography; Angeography) in Vivo.; Amer. J. Surg., 1930, 10, 225-240.

26. Ude, W. H., and Platou, E. S.: Erysipelas: A Comparative Study of the More Recent Methods of Treatment; J. A. M. A., 1930, 95, 1-4.

27. Albee, F. H., and Patterson, M. B.: The Bacteriophage in Surgery; Ann. Surg., 1930, 91, 855-874.

LUNG ABSCESSES

H. I. Spector. St. Louis (*Journal A. M. A.*, Sept. 13, 1930), asserts that all acute lung abscesses are primarily medical. Acute single lung abscesses and some chronic abscesses are usually amenable to medical treatment alone. Radical surgery is definitely indicated only in cases in which the patient does not get well after a reasonable period of conservative "management" in peripheral abscesses that do not drain well, in long standing chronic cases, or, occasionally, in multiple abscesses limited to one lobe. Bilateral multiple abscesses present a virulent condition running a rather brief and stormy course leading to a fatal termination. Early diagnosis and early medical treatment are the secrets of success in the cure of solitary lung abscesses.

TREATMENT OF PNEUMONIA*

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The death rate from pneumonia is still from 10% to 25%. It has not decreased appreciably in spite of the development of specific sera.

HISTORY

Pneumonia is by no means a modern disease. It was well known to the ancients as the writing of Hippocrates and others bear witness. Celsus refers to the spitting of blood and phlegm as one of the symptoms of severe pleurisy. We find this attempt at differentiation down to the time of Sydenham when it was recognized that no real distinction could be made and Sydenham's view was generally accepted. He said, "Having thoroughly considered all the various phenomena of a pleurisy. I consider it only a fever occasioned by a peculiar inflammation of the blood, whereby nature throws off the peccant matter upon the pleura, and sometimes upon the lungs, whence a peripneumony arises: which, in my opinion, only differs from a pleurisy in degree and in respect of the great violence, and the larger extent of the same cause".

Wallis, in his edition of Sydenham, writes: "It has been the custom of almost all authors, when treating of inflammations of the internal parts of the chest, to make a distinction betwixt pleurisy and peripneumony—it is seldom found but these two affections are united in the same disease. Besides, they can scarce ever be distinguished by the symptoms, and to discriminate them would be of little use in practice, in as much as they require precisely similar methods of cure".

From Sydenham to Laennec peripneumony was the term applied to the more severe of the acute diseases of the chest, and pleurisy to the less severe.

The diagnosis of pneumonia as we recognize it today was made possible by the discoveries of Auenbrugger and Laennec, and the physical signs of the disease were clearly pointed out by the latter (Laennec). Later the minute anatomy of pneumonia was first described by Rokitansky, who differentiated the lobar and lobular varieties. Laennec gives to Pinel the priority of restricting the term pleurisy to inflammation of the pleura. Previously it had been used loosely to signify a pain in the side, particularly those which are continued and accompanied with an acute fever.

That the exudate in pneumonia was intravesicular and not interstitial was pointed out by Addison. The former belief that the disease was a local one with general symptoms is no longer held, but we now recognize it as a general disease, with only local manifestations in the lung.

More recent research leads us to believe that it should be classed among the acute infections; that it is in all cases a microbic disease, yet not always due to the same organism.

As in different periods the conception of the disease has varied so has the treatment varied, the pendulum of medical opinion swinging widely.

ANCIENT THERAPY

Hippocrates made little difference in the details of his treatment of peripneumony and pleuritic effusions. For the severe pain passing into the shoulder and arm, he bled early and boldly, even to the point of syncope if the pain was acute. If confined to the lower part of the chest and abdomen he purged gently, withholding food during the purging, and relieved the pain with fomentations, cerates or linseed poultices. Cupping and the actual cautery are mentioned as useful in certain conditions.

Bleeding became the standard method of treatment, so much so that as late as 1871 Walshe, who was satisfied that bleeding was only rarely useful, did not dare to give up the practice. He said: "A bleeding of 6 or 8 ounces appears to me sufficient but I desire it to be understood I by no means deny that larger abstractions of blood might not be beneficial in the robust and stalwart inhabitants of the rural district is as much as my sphere of practice has been too purely metropolitan to warrant me in dogmatizing concerning the country". The chief discussion seems to have been centered about the amount and frequency of bleedings. It was generally understood that proportioning the evacuation of the blood to the powers of the patient was proper. The extent to which blood letting was carried is astounding. Forbes in his fourth English edition (1834) of Laennec, remarks that 24 to 36 ounces may be abstracted twice or even thrice within 24 hours in the beginning of the disease, not only with safety but with unquestionable benefit, and that it is only in the more advanced stages of the disease that greater caution is necessary.

Derivatives: At the close of the 18th and beginning of the 19th centuries, most physicians considered blisters, as being, after venisection, the most efficacious remedy in pneumonia. They were not applied, in the first instance, to the chest, but to the legs, thighs, or inside the arms. When they failed to act as derivatives, they were supposed to act beneficially by exciting, temporarily, the powers of the system, thereby rendering admissible further bleedings. Sinapisms, too, were supposed to act in the same way, but in less degree.

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Alkalies were used by the ancients to render the blood less plastic. Subcarbonate of soda, potassium or ammonia, soap, also the sulphates of soda and potassium were used. The fact that hepatized portions of lung placed in alkaline solutions softened, lent strength to this opinion.

Purgatives and emetics were used freely with the view of lessening the congestion within the chest or from the inflammation being complicated with bilious disorder.

Tonics in the shape of wine and bark were frequently prescribed. Laennec considered cinchona the best remedy when gangrene of the lungs developed, giving an ounce daily.

Calomel and opium, separately or combined, were extensively used in England. Calomel 1 to 5 grains and opium ½ to 1 grain every six, eight or twelve hours. Calomel was often given to the point of salivation. Tartar emetic in large doses was used in Italy and by Laennec. The drug was given in sufficient doses to vomit the patient two or three times and produce 5 to 6 stools a day. The Italians gave as high as several drachms in 24 hours and controlled the vomiting and diarrhea by syrup of poppies.

Chloroform inhalations. About 1859 Varentrapp, Wucherer and others employed chloroform, having the patient inhale 60 minims placed on cotton, for 10 to 15 minutes and repeated every two to four hours, avoiding unconsciousness. They reported about one death in 25, and by other methods one in seven.

Gradually the profession began to realize that the course of the disease was but little influenced by medicine, and that a careful regimen was most important. Up to 1910 there were a host of vaunted specifics heralded through the medical press. Flint once claimed that quinine in 20 to 40 grain doses would abort pneumonia. Schwartz claimed that iodine was a specific, and at different times, veratrum viride, carbonate of ammonia, ergot, salicylates, soda benzoate, creosote carbonate, and other drugs have claimed this distinction. About 1910 vaccines and serums came into prominence.

PROGRESS OF TREATMENT

Today, with our knowledge of the bacteriology and pathology of pneumonia, our death rate is not a great deal less than in ancient times. We know that many factors enter into the prognosis; experience, judgment, history of the case, physical signs, all of which are important. The pneumococcus types 2 and 3, which have the largest capsules, in general, cause the highest mortality. Type 4 frequently has no capsule at all. It is believed that the capsular material elaborated by the pneumococcus has something to do with protecting the bacteria from the antibodies of the host. It is said that type 1 pneumococcus infections are usually mild but in one series of 78 cases the mortality was 28%.

There is a sign that is more indicative of a grave prognosis than the type of infection and that is the presence of bacteraemia. Ordinarily one thinks of type 4 infections as mild, and in general they are mild for they are rarely accompanied by a bacteraemia. But when it is present, they are just as serious as infections due to other types.

Although the pneumococcus is the infecting agent in 90% to 95% of cases of lobar pneumonia, it is often difficult at the outset to know whether one is dealing with a bronchopneumonia or a true lobar infection. The knowledge of the particular causative organism in each case may have a definite bearing on treatment. If the hemolytic streptococcus is present one is watching for the development of a purulent pleurisy and especially for the discovery of multiple or anterior pockets. With the staphlococcus aureus one has the vision of multple miliary abscesses in the lungs with the occasional coalescence of the abscesses into a pocket that may be drained.

The country doctor has neither the facilities nor the equipment nor time for typing the pneumococcus or for blood cultures and time consuming bacteriological work. He must rely on the history, physical findings and his knowledge of the patient and his treatment is usually summed up in careful nursing, complete rest and quiet for the patient. If possible the patient is kept flat in bed, changing position at intervals from side to side. A tight binder often relieves pain. If it does not, codeine or morphine is used. Fluid intake and output are computed trying to get in 90 to 100 ounces a day. Daily enemata and no cathartics usually reduces distention to a minimum. Allow fluids or soft solids as desired but do not press nourishment. The medicinal treatment should be as simple as possible. Digitalis is probably not needed in the case of young adults, but is often very useful in the old patients, who may develop fibrillation. Caffeine is helpful for the respiratory distress and codeine, allanol, or diatussin for the cough. Since, without typing, serum is a hit and miss method of treatment, it behooves him to take the possibility of anaphylactic reaction into consideration. The development of a polyvalent concentrated serum for types 1 and 2 by Felton's method simplifies matters somewhat for the country doctor. The rather frequent occurrence of the streptococcus alone or associated with the pneumococcus, especially in pneumonias complicating measles, detracts from the value of serums. Rectal instillations of 4 to 6 ounces of potassium permangante, 2 grains to the pint of water, every 4 to 6 hours, gives very remarkable results according to the authors. Personally I have used it in only one case, he recovered, whether due to or in spite of the treatment, I am not prepared to say.

VACCINES

Vaccines have formerly been frowned upon for use in acute infections. It seems that the pendulum is slowly swinging in their favor. The degree of the negative phase, following the injection of a vaccine, is dependant upon the size of the dose. The optimum dose of a bacterial vaccine causes a transient negative phase, which, clinically, is scarcely or not at all recognizable, followed by a positive phase coincident with improvement in symptoms. If a large dose of vaccine has been used the negative phase may be characterized, clinically by rise of temperature and by other constitutional disturbances. In 12 years of using vaccine in the treatment of pneumonia, I have not recognized one negative phase. I have recognized, what I interpret as a negative phase, in many well individuals to whom I have given vaccine as a prophylactic for so-called colds but have failed to recognize it in the acutely sick individual.

In my opinion a good sized dose is indicated if one expects results. I first used a vaccine in a severe "flu"-pneumonia in 1927. A girl, 19 years of age, with a complete left sided pneumonia and a patch in the right lung about three fingers wide over which was a pleurisy. Temperature 105, pulse 145, respirations 45 to 50. It was the 3rd day of her pneumonia and she was in a critical condition, delirious, and her pulse and respirations were increasing in frequency. I expected she would die and could think of nothing more to do except take a chance on a vaccine. I gave her ½ cc of a vaccine made up of pneumonocci types 1, 2 and 3, 1,500 million, type 4 and allied green producing diplococci 1,500 million, hemolytic streptococci 1,000 million, staphlococcus aureus and influenza bacilli 500 million in each cc, Lilly's V905. This ½ cc was given subcutaneously about 9 p. m. I saw here again twelve hours later and she showed a remarkable change. Temperature at 9 a. m. was 99.2, pulse 100, respiration 30, she did not complain of the pleurisy pain in the right lung. The 5th day of her pneumonia, 2 days after getting vaccine, her temperature was 102 plus, the highest since she received the vaccine. I gave her 1 cc on the 6th day of her pneumonia, three days after the first inoculation and she responded with a drop in temperature to 98, pulse 100, respiration 24. The pneumonia began to resolve and she expectorated large quantities of a greenish yellow sputum. On the 9th day of her pneumonia, I gave her 1½ cc without rise in temperature, pulse or respiration and she made an uneventful recovery except that she lost so much hair that she wore a wig for a time.

At the same time I had a patient, a woman, who weighed 240 pounds, who had a pneumonia. She was so fat I could not well outline the involved areas. Her finger nails, nose and lips and lobes of her ears were cyanotic and she was so dyspnoeic she had to be propped up to nearly a sitting position. Temperature was 104, pulse 160, respiration 60 and very shallow. She was on her 3rd day of pneumonia when the first case showed such startling reduction in her symptoms, so I inoculated her to see what results would follow. These were less spectacular than the first case. Temperature dropped only 2 degrees, to 102, pulse 135, respiration 45 and cyanosis lessened, and she was able to raise a little blood tinged sputum. After her second innoculation, three days later, temperature dropped to 100, the 7th day of her pneumonia, pulse 115 and respiration 30. She had her 3rd inoculation the 9th day and went on to a complete recovery.

Another interesting case was in January of 1918 while the "flu" was raging. A child of 3 years developed pneumonia on a Sunday with a temperature of 103, pulse 150, respiration 60. The consolidation was limited to the right lung and patchy. He was inoculated with .3 cc V905. Monday temperature, pulse and respiration were climbing with temperature reaching its heighth about mid-night at 106.8. Tuesday high temperature was 107. Wednesday his entire right lung seemed solid. His condition looked serious, he was semi-comtose, had ashy gray appearance, involuntary voiding and bowel movements. A second inoculation of .7 cc V905 was given and consultation was asked for. Thursday morning consultant from Lincoln saw the case and we were surprised to find a temperature of 99, pulse 130, respiration 48. My consultant was convinced, after examination, that fluid was present in right chest. However, aspiration recovered only ½ cc sanguinous fluid, and that from the lung, which on culture proved the pneumonia to be due to a type 1 pneumococcus. The child made an uneventful recovery without complications. He had been a constipated youngster before he had his pneumonia and since his recovery has had no more such trouble. Both father and mother of this child had a "flu" pneumonia, the father being convalescent when the child came down and the mother developing her pneumonia about the same time as the child. She was not as dangerously ill as the father and son and the chief peculiarity, to me, of her case was the formation of a large vesicle which covered the entire curve of her left breast. Culture of this fluid by my consultant demonstrated a pure strain of staphlococcus. Whether her's was a staphlococcus pneumonia or not, I cannot say. However, all three in that family recovered.

Two deaths in fifty-one cases of pneumonia during the influenza epidemic of 1917 and 1918 were both in pregnant women. One in the seventh month of pregnancy whose heart simply went to pieces, and she died on the third day of her pneumonia. The other who delivered herself of her baby after having had influenza for three days died from pneumonia forty-eight hours post partum. Her heart also went wild. Both had the vaccine but without results.

In delivering this paper, I am fully aware of the fact that one must not feel like a conquering hero when a case of pneumonia recovers. I am also aware that recovery depends a great deal upon the resistance of the patient and the number and virulence of the infecting organisms. I believe that in the rural districts we have a more rugged and resistant type of patient than you who practice in the city and it is also possible that our infecting organisms are less virulent.

It is my opinion that this vaccine is of value in the treatment of respiratory infections including pneumonia. You may say the results are due to the foreign protein. Perhaps! But many other makes of vaccine and combinations of bacteria have been tried without the satisfactory results I have seen produced by V905 Lilly. I would not feel safe in treating a pneumonia without this aid. And I give the vaccine as soon as I am convinced that there is an indication for it, that is in acute respiratory infections, especially those involving the chest. I also treat the nose, when involved, in the hope of eliminating or decreasing a quite probable source of infection. Since the influenza epidemic we have not had as many pneumonias in the same length of time nor have we had such virulent cases. The cases briefly mentioned above were among the first I treated with vaccine and naturally the impression was greater, for since then I rather expect to see about the same results and seldom am I disappointed. I expect a drop of temperature, pulse and respiration within twelve hours after the first inoculation. There is a sense of well-being. They are able to raise sputum earlier and more easily. Toward the end of the second day temperature, pulse and respiration increase, to fall again to a lower level after the second inoculation. Occasionally a response is not shown until after the second innoculation. Do not understand that our batting average is on a par with our radio broadcasting expert, "say 90% to 95%". I wish to present a remedy which I think has shown some value and I trust will be of help to the country doctor, of which I am one, and to his pneumonia patients.

CONCLUSIONS

1. We still do not have a specific for all types or cases of pneumonia.

2. Your treatment is, we believe, more humane than that in the past.

3. A bacteraemia in pneumonia is of grave import.

4. Any remedy increasing the bacterecidal and antitoxic propers of the blood is of value.

5. Vaccines, if given early and in sufficient dosage, seem to turn the tide in favor of the host.

6. When the nose and pharynx are involved an effort to eradicate this focus aids the patient by reducing the absorption of the products of this infection.

DISCUSSION

F. L. ROGERS, M. D. (Lincoln): I enjoyed Dr. Conrad's paper very much. The history of the treatment of pneumonia is most interesting. His suggestions as to the importance of treatment of infection of the upper respiratory tract which may be associated with pneumonia is certainly very important. I have not used the particular method which he has emphasized, but coming from such a conservative observer as Dr. Conrad makes it deserve more consideration. I have never felt that any of the so-called specifics were of any value. Rest, fresh air, good nursing care, and in some cases stimulation are things on which we can rely and we know that they do no harm. Recently much has been written in regard to the relationship of atelectasis and pneumonia. The peculiarities of post-operative pneumonia, unresolved pneumonia, abortive pneumonia and the pneumonic areas found in cases of carcinoma of the lung, and foreign body all support the importance of atelectasis as an important factor in the cause of pneumonia. Although this information is of no direct help in the treatment of pneumonia it is very helpful in explaining many of the things which one observes in dealing with pneumonia.

F. A. WELLS, M. D. (Lincoln): About fifteen or twenty years ago I read a paper before this society on the treatment of pneumonia by quinine. I haven't changed my mind. I have had no reason to change it. While a member of the staff of the Base Hospital at Camp Logan, Texas, and at Camp Dodge, Iowa, I used serum in the treatment of pneumonia with little success. While stationed at the Base Hospital at Camp Logan I suffered an attack of lobar pneumonia in which I had a very severe chill, a temperature of 104.6 and a leucocyte count of 22,000 within three hours of its onset. Securing the consent of the chief of the medical service I began to take quinine in large doses. My temperature was normal in forty-eight hours and in seventy-two hours I was back on duty again. I have successfully used quinine many times since then in treatment of my patients and believe it a valuable remedy.

ADOLPH SACHS, M. D. (Omaha): Pneumonia has been the subject of discussion pro and con for decades. The virulence of the different types of pneumonia vary from year to year, likewise the virulence of pneumonia varies in different parts of the country, so that no specific form of treatment is applicable to all cases. I feel that in certain seasons all pneumonias will get well with any form of treatment, and certain other seasons a great many of them will die. This depends entirely upon the virulence of the organism and the resistance of the patient. I feel that Dr. Conrad is a very conservative Doctor and whatever he may tell us of his results is worth while listening to. He rarely over-estimates anything. Many cases are over digitalized, which unquestionably adds to their toxemia, however, I too feel that the rational use of digitalis is of great value. We have recently been using the oxygen tent in treatment of our cases and I feel that it has been a great aid; it especially saves the right heart. Some men use the oxygen tent and expect it to be a cure-all. This will probably be the cause of its being condemned by some men, however, if the pneumonia is treated properly I am sure that the oxygen tent will be of great value in many cases, especially those with cyanosis. Often times it is the erratic treatment which causes a failure and not the oxygen tent. I again wish to compliment the author on his excellent paper.

FLOYD CLARK, M. D. (Omaha): I believe Dr. Conrad has had excellent results with the particular treatment he has so well outlined. To me it seems important that we should endeavor to be selective in our treatment of pneumonia, I do not think that every patient with pneumonia should be given serum, nor should every patient have oxygen. With regard to oxygen, I believe our mistake in the past has been to give it so late in the disease and the method of its administration was so crude that very little, if any, good was accomplished with its use. For some time past I have had access to any oxygen tent. I am not convinced that in the pneumonia of children and young infants the oxygen tent should be used indiscriminately. If the infant or child is cyanotic and the respiration labored, then there is a definite indication for its use. In the past two months I have had three pneumonia patients on whom I have used oxygen in an oxygen tent. Two of them died. When we remember that the prognosis in pneumonia in children is usually good, the percentage of deaths with my patients with the use of the oxygen tent has not borne out this fact. The coldness of the atmosphere in the oxygen tent seems rather heroic treatment, at least for a baby. No doubt it has its usefulness in older children and in adults.

A. A. CONRAD, M. D. (closing): I know that research, of course, does a great deal for this type of disease. About a year ago I had one case that went in spite of all I could do for him. Heart failed and pulmonary edema developed. I improvised an oxygen tent, but he went in spite of it. I have been giving this vaccine for 13 years and I do not believe that it interferes with any other treatment that may be given. I am careful in giving an inoculation to cases of severe heart disease and especially in nephritis. I have had very few, at the present time only one empyema, since I have been practicing medicine. Either I have been lucky or this vaccine has helped prevent it. I don't know which. In nose infections I use a very small applicator and do a thing that nose and throat men do not approve of. I go into the nose and reach clear up into the upper third with adrephine and then with argyrol 10 to 20% on the applicator. I go back into the naso-pharynx and travel all around in it with this applicator. I do know that they get a wonderful amount of relief. Some people come in for vaccine as a prophylactic and do not employ me at other times, and go through the winter without respiratory infection. Later, when we are having colds, grip, and "flu", these people may come back for more vaccine if they feel worried. I wish to thank you all for your very courteous attention.

THE CARDIAC PHASE OF TOXIC GOITRE*

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The most important aspect of the toxic goitre syndrome is the cardiac phase. An understanding and appreciation of the goitre heart is of vital importance in the planning of the modus operandi for patients suffering from thyrotoxicosis.

The goitre heart as such is resultant from abnormal nerve stimulation plus the toxaemia arising from the hyperactivity of the thyroid gland. The nervous phase probably arises from the toxic so the toxaemia may be considered the prime factor.

Of the two common types of toxic goitre the toxic adenoma is slower in developing the toxic phase and more progressive in its course; the exophthalmic developing more rapidly, often passing through a crisis and subsiding for a time under treatment; consequently one expects to find a heart muscle more permanently damaged with toxic adenoma than with exophthalmic goitre provided the length of time of the acute manifestations is the same in both cases.

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The goitre heart is manifested by several outstanding signs, namely: 1. Enlargement, with or without murmurs. 2. Deviation from the normal of the blood pressure. Usually a high mean or pulse pressure. 3. Increased rate, either constant or variable, the pulse variation being dependent upon the degree of toxicity plus the unstability of the nervous system. 4. Arrhythmia.

Bunts of Cleveland in a recent article claims that "in every case of hyperthyroidism there is danger of a cardiac complication even though no signs of cardiac decompensation may be present". He gives every adult case a course of digitalis prior to operation.

Considering separately the above mentioned signs, we find an enlargement of the heart in the majority of cases showing toxic symptoms. This enlargement, as a rule, is to the left and later to the right when the heart approaches decompensation. It is usually due to dilatation rather than hypertrophy. The degree of dilatation depends upon the duration of the toxic phase and the degree of toxicity. When mitral and aortic murmurs are present it indicates a rather marked degree of dilatation, presupposing, of course, a normal heart muscle prior to goitre involvement.

In those cases giving toxic symptoms which started several years prior to examination, an estimate of the cardiac involvement is best deferred until after the patient is placed upon the pre-operative routine. A simple dilatation responds rapidly under rest, Lugol's solution and ice within a short period of time, while a hypertrophy responds sluggishly or not at all.

Blood pressure is the best indicator to the condition of the heart muscle. It is well to remember that a single reading in these cases is of little or no value and that it is only by a series of pressure readings that a fair estimate of the cardiac condition can be made. I have seen a difference of twenty points in two systolic readings made five minutes apart, the second estimate being the lower. This can be explained only on a nerve tension basis.

The goitre heart, which is compensating, has, as a rule, a systolic reading higher than normal. The diastolic pressure, in my opinion, is more of a true indicator to muscle tone. A low diastolic reading indicating low cardiac tone, either temporary when due to toxic exhaustion or permanent when due to cardiac degeneration. Under rest and treatment if the diastolic rises to normal it indicates a condition of cardiac depression and is a favorable prognostic sign regarding the future cardiac recovery after the removal of the source of toxicity.

The mean or pulse pressure indicates cardiac muscle strength. The pulse pressure is a safe indicator for the time of operation. As the diastolic pressure rises and the systolic pressure falls under preoperative treatment they approach the normal mean pressure of 50. As a rule, this is accomplished in from one week to ten days and affords the ideal time for operation. It will be noted that after this ideal point is past, the pulse pressure will again increase thereby indicating that the greatest benefit of the preoperative preparation has been past. It is difficult if not impossible to again secure this ideal point of cardiac stability.

There is a tendency at the present time to disregard the cardiac condition prior to operation because of the lessened tendency to shock by the use of local anaesthesia and better operative technique. This trend is not safe for the welfare of the patient.

Arrythmia is not an uncommon cardiac condition associated with toxic goitre. In 1922 Hamilton found 18 cases of auricular filbrillation in a study of 200 cases. Willius, Boothby and Wilson found auricular fibrillation in 9% of the 377 cases examined. They noted that the development of this fibrillation did not depend so much on the intensity of the hyperthyroidism as measured by the basal metabolism rate as on the duration of the increased metabolic rate. Foster has shown that mortality following thyroidectomy is higher in cases in which fibrillation is present. However, sixty per cent of auricular fibrillations are cured by thyroidectomy.

Fibrillation occurring for the first time following operation is a danger sign of cardiac failure calling for immediate and heroic cardiac support with digitalis.

Crotti says that "a constant cardiac arrhythmia is of a bad prognosis. It shows that the cardiac mechanism is out of gear and nearing exhaustion."

The outstanding characteristic of the goitre pulse is its rapidity. Thomson says "the Graves pulse runs as fast or faster than in fever by day and by night and always in sleep with less change at each counting over long periods of time than in any other complaint". The pulse is a toxic pulse influenced markedly by nerve stimulation. Quoting Crotti again, "The thyrotoxic pulse has all the characteristics of a *pulsus celer*. Smaller volume, soft and often dicrotic, varies with exacerbations of the disease, with physical exertion, with mental excitement and with or without any apparent reason at all." The pulse rate of these patients is so dependent upon their nervous psychic condition that more than one count is necessary to ascertain the rate. Crotti claims to have seen a drop of from 125 to 90 beats per minute while taking the pulse and drawing the patient's attention to something else. I have noted a drop from 120 to 100 while talking to the patient.

The marked variability of the pulse and ease with which it is influenced by psychic stimuli is an indication of nervous instability rather than cardiac weakness. However, as the same stimuli influences the heart one expects to find a damaged heart muscle if the heart has been subjected to this intensive drive over a long period of time. Whenever possible a cardiac graph of the heart should be made in order to appreciate conditions which are not available by the ordinary routine examination.

Rest, iodine and ice form the foundation of our preoperative preparation. The iodine should not be used, if operation is contemplated, until the patient is placed in the hospital under observation. The reason for this is aptly voiced by Lahey who says, "Iodine as a preoperative indication when effectual appears to accomplish its greatest good within a period of approximately two weeks. When patients come to the clinic after having had iodine for considerable periods of time, it is doubtful if the same degree of preoperative improvement is accomplished with the drug."

An accurate estimate of the goitre heart is only possible after hospitalization and close observation of the patient. No heart condition is an absolute contraindication to operation except that of complete decompensation. However, no operation for toxic goitre should be performed until the heart is brought back to the stage of its greatest efficiency. A true appreciation of the cardiac condition plus accurate judgment as to the time of the operation will greatly lower the mortality in thyroid surgery.

INTRAVENOUS SODIUM AMYTAL IN SURGERY*

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New methods of anesthesia have been a great aid to surgery over the past two or three decades. From the crude "rope method" of anesthesia, down through the period of chloroform, ether, nitrous oxide, local, spinal and block anesthesia, complications have been reduced and the ill effects of the anesthetic have been materially lessened. Even though modern methods of anesthesia are far superior to those of the past, complications and undesirable effects are still very disturbing factors to the surgeon, and particularly so to the patient.

The possibility of eliminating the abominable suffocation, choking, strangulation due to mucous, etc., in inhalation anesthesia, is very remote. In this form of indirect anesthesia, the lungs act only as a portal of entry for the inhaled anesthetic to reach the blood and be carried to the central nervous system. The insult or irritation which the respiratory apparatus receives is certain to produce distressing complications at times. If the unoffending organ could be spared from the direct effect of the anesthetic, it would be reasonable to assume that respiratory complications due directly to anesthesia, should be eliminated.

The direct or intravenous route, on the other hand, has its hazards. In the obese, much difficulty can be encountered in trying to enter a vein. Some patients have an extreme horror of a hypodermic needle. A small amount of the anesthetic agent accidently injected outside of the vein might cause a slough. Perhaps the greatest objection to the intravenous method of anesthesia lies in the fact, that when the drug is once given, it cannot be recovered. However, if we had a specific antidote for the anesthetic given, this factor could probably be overcome.

The barbituric acid derivatives have long been known to have an anesthetic effect when administered in sufficiently large doses. Only in recent years has sufficient experimental work been done with these various compounds to make them safe for use in man. In this country Zerfas and McCallum are the pioneers in this work. Their preliminary report was published in February, 1929. Since then numerous surgeons have used sodium amytal in man and found it to be very satisfactory from several points of view.

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I became interested in the use of this drug in general anesthesia in October, 1929. During the brief time since then, my experience has not been extensive, therefore, it is not my intention to draw concrete conclusions from the small number of cases in this series. However, I hope my discussion will create sufficient interest to stimulate others to further investigate sodium amytal. I have used the drug in twenty-five major operations. In all cases the drug was given intravenously. All types of abdominal operations, such as cholecystectomy, choledochotomy, ileocolostomy, gastroenterostomy, hysterectomy, etc., have been done. It was also used in goitre, amputation of the breast and kidney surgery.

Following is a list of the operations done:

1. Cholecystectomy.
2. Choledochotomy.
3. Sub-total hysterectomy.
4. Appendectomy.
5. Perinephretic Abscess.
6. Cholecystectomy—Appendectomy.
7. Post-operative Hernia.
8. Posterior Gastroenterostomy.
9. Cholecystectomy.
10. Prolapse of Vagina and Perineorrhaphy.
11. Salpingectomy.
12. Ileocolostomy.
13. Resection ovarian cyst.
14. Resection ovarian cyst.
15. Cholecystectomy.
16. Salpingectomy.
17. Perineorrhaphy—Amputation of breast.
18. Closure of gastro-colic fistula and resection of gastro-jejunal ulcer.
19. Cholecystectomy.
20. Hysterectomy—sub-total.
21. Hysterectomy—sub-total.
22. Hysterectomy—sub-total.
23. Cholecystectomy.
24. Thyroïdectomy.
25. Total Hysterectomy.

Sodium iso-amyl ethyl barbituric acid or amytal has been furnished in pure form in a sterile ampoule, containing one gram of the salt with a companion ampoule of sterile distilled water in sufficient quantity to make a ten per cent solution when the two are mixed. The night preceding the operation chlorotone, grains ten, was given and one-half hour prior to the operation morphine and atrophine were given. All cases were injected in the operating room, although this could have been done in the patient's room, and relieve them of the apprehension of the operating room.

The solution should be injected slowly, not over one cc a minute. Ten to eighteen milligrams per kilo or .07 to .126 grains per pound of body weight is the dose recommended. The average dose varies from ten to eighteen grains, depending on the weight and general condition of the patient. As high as thirty-five grains have been given intravenously without ill results. The largest dose I administered was twenty-five grains which was given to a patient weighing two hundred pounds.

Usually after the injection of three or four ccs, the patient becomes drowsy. With a slight increase in the quantity of the drug, a deep sleep is produced. The lower jaw relaxes and the tongue falls back, producing a snore. The rapidity and extreme ease with which the patient goes to sleep reminds one of the peaceful sleep of a tired child.

The drug has no particular effect on the pupils. Usually there is a lowering of the blood pressure as the injection progresses, but as soon as the incision is made, the pressure rises. If the blood pressure should drop to eighty systolic, it is advisable to discontinue the anesthetic immediately, and administer ephedrin and caffeine citrate hypodermically. These drugs will usually succeed in restoring the pressure to a point of safety. There are a few in whom the blood pressure is raised slightly after the injection begins. The pulse rate is slightly increased in most subjects. In those who are very apprehensive before the injection begins, there is usually a slowing of the pulse. There is not much change in the rate of respiration, but the amplitude is quite markedly lessened. So much so, that at times one might think the patient was in a state of apnea, if it was not for the good color of the skin and mucous membrane. Complete relaxation of the muscles, particularly of the abdominal muscles is very noticeable. If a sufficient amount of the drug is given, most all reflexes are lost excepting the pharyngeal, sphincters, etc.

While it is possible to get deep surgical anesthesia with amytal alone. it is advisable at the present time to give smaller doses and supplement the drug with some other form of anesthesia. In one instance only in this series was the operation completed without the aid of another anesthetic. This case was an asthenic, debilitated woman, suffering from pyloric obstruction due to benign ulcer. In one case ether was the supplementary anesthetic, in two block anesthesia and in twenty-one nitrous oxide oxygen was used. Most any form of anesthesia can be used in conjunction with amytal. In all cases where any form of inhalation anesthesia was used, the amount given was greatly lessened, due to the effect of the sodium amytal. This was particularly noticeable in the use of nitrous oxide, the mixture oftentimes being reduced to fifty per cent. Deep abdominal operations, such as choledochotomy, and cholecystectomy in rather large individuals were accomplished with seventy to eighty per cent of the normal amount of nitrous oxide. In no instance was it necessary to use ether with the nitrous oxide for relaxation.

In this series, there were two males and twenty-two females. The youngest was eighteen, the oldest sixty-two. The average age was forty-four. The weight varied from one-hundred and three to two hundred and thirty-four pounds. The average was one hundred and forty. The amount of amytal given ranged from nine grains to twenty-five grains, average thirteen grains. The lowest systolic blood pressure before the amytal was given was ninety-eight. The highest one hundred and seventy. The drop in pressure varied from eight to seventy-two points. The average was thirty-three. In six cases the pulse rate dropped. In nineteen the rate increased. There was not much change in the rate of respiration. The amplitude was markedly decreased. The relaxation of the abdominal muscles was very satisfactory in all cases. The closure was a little difficult in one only.

Some of the patients were semi-conscious before leaving the operating room. Most of them slept from one to ten hours following the administration of the anesthetic. After awakening they would remain drowsy another five to ten hours. There was slight delirium in two cases, neither of which required restraining. The delirium lasted three or four hours. There was no sweating during the period of operation and no respiratory complications in any of the cases. There were no deaths directly attributable to the anesthetic. Lundy states that he has used the drug intravenously four hundred and fifty-seven times without any fatalities directly due to the anesthetic. Mason had two cases develop pulmonary edema, one of which died. He believes that sodium amytal was probably responsible for the death although the patient was a debilitated old man on whom ether was used as a supplementary anesthetic. One of the most striking features of the use of the drug was the reduction of nausea and vomiting following the operation. Vomiting occurred twice, once six hours after repairing a large post-operative hernia and once twelve hours following a total hysterectomy.

The amount of morphine used post-operatively was greatly reduced. The average number of hypodermics for the first twenty-four hours was two plus. In some abdominal operations, no morphine was required during the entire post-operative course. All of the patients to whom the drug was given were unanimous in their praise for the method of inducing sleep. Several of these patients had had previous abdominal operations and were in a position to judge the difference between anesthetics. Without exception everyone stated that if they were required to undergo another operation, they would choose sodium amytal for the anesthetic.

DISADVANTAGES

1. Difficulty in getting into the veins.

2. Abrupt fall in the blood pressure.

3. Delirium following the operation, and prolonged sleep, both of which require constant nursing.

3. Inability to recover anesthetic after it is given.

5. Pulmonary edema due to prolonged sleep.

ADVANTAGES

1. The patients may go to sleep in their beds and awaken in their beds. thus avoiding the apprehension of the operating room.

2. Quiet respiration which facilitates all abdominal operations.

3. Lack of sweating, which will probably aid in reducing respiratory complications, and dehydration.

4. Post-operative sleep, lasting several hours, with more or less loss of memory for events, especially painful events.

5. The easy manner in which sleep is produced. There are no disagreeable sensations such as suffocation, choking, etc.

6. The minimizing of post-operation nausea and vomiting.

7. The reduction in the amount of opiates used post-operatively.

8. Facilitates the use of nitrous oxide oxygen. The relaxation is much better than could possibly be obtained by using ether in combination with nitrous oxide.

9. It lessens the amount of any general anesthetic used to supplement the amytal.

In the present state of our knowledge, sodium amytal is reasonably safe in doses ranging from ten to twenty grains. It produces a natural sleep without excitement, suffocation and other disagreeable symptoms of inhalation anesthesia. Its effects are sufficiently prolonged to reduce the severe pain, nausea and vomiting following an operation. The merits of sodium amytal warrant further experimental work and its continued use in general anesthesia.

BIBLIOGRAPHY

Gabe, Wm. E.: Sodium Amytal As a Surgical Anesthetic. Indianapolis M. J. 32: 190-191 (April) 1929.

Link, Galthe: The Use of Sodium Amytal in Major Surgery. Indianapolis M. J. 32: 196-199, April, 1929.

Lundy, J. S.: Proc. Staff Meetings of Mayo Clinic. 1929, IV, No. 30.

Lundy, J. S.: The Barbiturates As Anesthetics, Hypnotics and Anti-Spasmodics. Anesthesia and Analgesia, November, December, 1929.

Mason, T. Tate, and Baker, Joel W.: Experience With Sodium Amytal As An Intravenous Anesthetic. S. G. O., Vol. L, No. 5, May, 1930, p. 828-835.

Zerfas, L. G., and McCallum, J. T. C.: The Analgesic and Anesthetic Properties of Sodium Isoamylethyl Barbiturate. Jour. Indiana State Medical Association, Vol. XXII, February 15, 1929, p. 47-50.

DISCUSSION

ARTHUR C. JOHNSON, M. D. (Omaha): I am very glad to discuss this excellent paper by Dr. Arrasmith. Sodium amytal to date has not produced death when used in anaesthetic quantities so far as is known. Its use surgically will probably be confined to that of an adjunct or accessory position since certain disadvantages accrue when large quantities are given. Small doses, sufficient to produce sleep, seem to be most satisfactory when combined, to produce sleep, with ether. It is important to note that uniformly one-third to one-quarter of the amount of ether or gas usually used is sufficient for satisfactory anaesthesia. The immediate postoperative course will be found more free from nausea, vomiting, distension, gas pains, etc., than with any other combination. The patient can be put to sleep in his room under pleasant circumstances and will wake up in the same manner. In a series of one hundred and ten major operations it has proven a distinct beneficial addition to ether anaesthesia both from the standpoint of the patient and the surgeon.

SODIUM AMYTAL ANAESTHESIA IN SURGERY*

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The following is a report on one hundred ten cases of sodium amytal anaesthesia used by us for a great variety of surgical cases during the past year. There were no deaths in the series. The series included operations upon the breast, chest, colon, stomach, duodenum, appendix, female pelvis, rectum, ureter, and extremities. We did not use it in thyroid operations, as we desired the patients to be awake during the greater part of the operation. The amytal was administered intravenously in doses varying from three tenths gram to one and one-half grams and at the rate of one and one-half grains per minute.

The induction of anaesthesia with intravenous sodium amytal is a really beautiful thing. The patient is perfectly at ease and chats with the doctor as the anaesthesia progresses. He notices no untoward symptoms and finally says that he is getting sleepy. This is quickly followed by slumber, and the patient appears as one taking a quiet after-dinner nap. The breathing is very quiet. The pupils show no alteration. The skin remains normal.

The amount required for hypnosis is generally not nearly sufficient for anaesthesia. One must continue the injection until the patient does not squirm when pinched with a towel-clip if he wishes to operate without supplementary anaesthesia.

There are many advantages to this anaesthesia. Patients like it. We now have many requests for it. There is no postoperative vomiting following sodium amytal. To patients who have previously had ether, this is a great boon. They also enjoy long periods of postoperative sleep and remember none of the painful events of the operation. The elimination of preoperative fear by the insidious induction of anaesthesia is a great advantage. The patient is asleep before he realizes that he is about to go to sleep. There is no stormy excitement period. Even the husky giant goes quietly to sleep without a struggle. The alcoholic, likewise, readily succumbs. The quiet respiration assists the operator who is doing abdominal surgery.

Every good thing has its disadvantage. Sodium amytal is no exception. To me the greatest disadvantage is the confused mental state which follows the use of large doses for complete anaesthesia without supplementary ether or gas. Following these large doses the patient may sleep for twenty-four hours or longer and awaken very restless and somewhat confused. He might get out of bed and go to the toilet if not restrained or closely watched. This disadvantage is, however, entirely eliminated by using smaller doses with a small amount of supplementary ether. A second disadvantage is the fall in blood pressure. The more rapid the rate of injection the greater the fall in blood pressure. We have made it a practice to stop the injection if the systolic blood pressure reached eighty degrees. The patient whose blood pressure has fallen under sodium amytal anaesthesia does not appear shocked as with spinal anaesthesia. He appears quite normal and one does not worry about the blood pressure drop as one does with spinal. In a few cases we injected adrenalin in five minum doses but later found that when the incision was made that the blood pressure quickly rose to a safe level and did not again drop. It was found also that the tongue frequently dropped back unless the anaesthetist was watching for this incident. A few cases required postoperative catheterization but the incidence was very low and undoubtedly was due to the operative procedure rather than the anaesthetic.

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During the process of experimentation with this drug we learned that different types of individuals required vastly different amounts of the drug, both for hypnosis and for anaesthesia. The husky young adult or middle-aged individual, with a normal blood pressure and much vitality, required about a half gram for hypnosis and approximately one and a half grams for anaesthesia. Such a dose would probably kill a debilitated small person with a low blood pressure or an elderly individual with a degenerated vascular system. The feeble and the asthenic require about three-tenths of a gram for hypnosis and very little more for anaesthesia. In this group the fall in blood pressure is likewise apt to be the greatest and the respiration quite shallow. The extra amount required to produce anaesthesia after hypnosis is present is frequently so small in these cases that it is safer to induce hypnosis only, then begin the operation and use supplementary ether if necessary. In one such debilitated case we encountered respiratory difficulty which required artificial respiration because supplementary gas anaesthesia was induced before the operation was begun, not realizing that the three-tenths gram of amytal administered for hypnosis had also produced anaesthesia. After quiet respiration was resumed in this case it was found that a prolonged pelvic operation could easily be done without any supplementary anaesthesia. Since that time we have never begun supplementary anaesthesia without first being sure that both hypnosis and anaesthesia were not present rather than hypnosis alone.

After trying sodium amytal alone and in combination with other drugs and anaesthetics we have concluded that its greatest value is to be obtained through combined anaesthesia. In this way the advantages are maintained and the disadvantages are eliminated. We prefer a preliminary dose of morphine, grains one quarter, and atropin, grains one and one hundred and fiftieth, followed in approximately forty-five minutes by three-tenths to one-half gram of intravenous sodium amytal for hypnosis and this supplemented by a few whiffs of gas or ether for complete anaesthesia. By this method the induction is perfect. The dangers are eliminated. The anaesthesia and relaxation are excellent and the patient awakens quickly in a tranquil mental state, free from nausea, and free from mental qualms. They may ask when the operation is to be done. They are all enthusiastic about the anaesthetic. This enthusiasm is most marked in patients who have had previous anaesthetics of other types.

It is interesting to note that a patient with a profound psychosis of the melancholia type who required an emergency operation and who was given a sufficiently large dose of sodium amytal to produce hypnosis for twenty-four hours, awakened in a much clearer mental state than she had been prior to the induction of anaesthesia. This is food for thought for the psychiatrists. Could they greatly benefit some of their patients by prolonged profound hypnosis with intravenous sodium amytal, giving as it does complete mental rest for a long period?

We used intravenous sodium amytal to relieve a gall-stone colic in a dope-fiend with excellent results. The patient slept through the period of colic and awakened feeling well. She asked for amytal rather than morphine when her next colic came on.

Amytal may be given by mouth, rectum, intravenously or subdurally. This paper deals only with the intravenous injection.

Sodium amytal in combination with ether or gas is an excellent anaesthetic. Allied drugs may take its place, but either amytal or one of its near relatives is here to stay. The patients will see to it that it is not forgotten.

INEFFICIENCY OF METAPHEN AS SKIN DISINFECTANT

The recently published experiments of Raiziss, Severac and Moetsch showing that metaphen in strengths of from 1:500 to 1:2,500 invariably sterilizes inoculated rabbit skin are invalid because the amounts of drug transferred to the subcultures have been shown to be sufficient to inhibit bacterial growth. Metaphen 1:500, tested by a valid method, with exposure for five minutes and subsequent drying, cannot, according to the experience of Edwin C. White and Justina H. Hill, Baltimore (Journal A. M. A., July 5, 1930), be relied on regularly to sterilize normal human skin. Different individuals show considerable variation in difficulty of sterilization.

THE CLINICAL VALUE OF ELECTROCARDIOGRAPHY*

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Lack of appreciation of the true position of the electrocardiograph in cardiology has led to much confusion and misunderstanding concerning its clinical value. The purpose of this paper is to help clarify the atmosphere and establish the role of the electrocardiograph in cardiac problems. Before a discussion of its clinical use is undertaken the following points are to be emphasized. First: Although the electrocardiograph is a laboratory instrument of precision, it should not be used as a short cut for it is in no way intended to supplant the established methods of cardiac diagnosis. Second: Graphic interpretation of the records may be made by a competent technician but the clinical interpretation should be made only by one familiar with all the details of the history and physical examination. When these facts are once realized the electrocardiograph will be assigned to its proper place.

Time will not permit a discussion of the technique of obtaining and interpreting the electrocardiograms but various slides will be shown to demonstrate their value in certain groups of cases.

The electrocardiogram, being a graphic record of the course of the cardiac action currents, naturally is of most value in detecting those lesions which directly affect such currents. Inasmuch as the cardiac arrhythmias are concerned solely with the function of the conduction system their detection and identification is primarily electrocardiographic, although they may in many instances be diagnosed by the ordinary clinical methods. The electrocardiogram accurately differentiates such arrhythmias as premature contractions of auricular and ventricular origin, paroxysmal tachycardia and auricular flutter, weak premature contractions and actual dropped beats—differentiations difficult or impossible to make without mechanical assistance. It is obvious that exact identification is essential for rational treatment and prognosis.

Myocardial lesions by disturbing the course of the cardiac action currents produce quite characteristic evidence as to their kind, location and degree. This evidence may not be so spectacular as that of an abnormal rhythm but is of vastly more importance for after all the condition of the myocardium is most vital. Valvular lesions and complex arrhythmias lose much of their significance when accompanied by a sound myocardium, and on the contrary, seemingly innocent endocardial lesions and simple arrhythmias assume a much more serious aspect when accompanied by a damaged myocardium. For example, the prognosis of auricular fibrillation or premature contractions is much more grave when there is coexistent coronary artery disease while the prognosis of high grade mitral stenosis may be greatly modified when the myocardium is sound.

Physicians in general recognize cardiac disorders featured by irregularities or murmurs and in most instances form a fairly clear conception of the importance of their findings. But there are many cases which tax the ingenuity of the examiner. Such patients give an indefinite cardiac history but present no abnormal rhythm and no physical signs of valvular disease or congestive heart failure. The physician is led to suspect heart disease but is offered little supportive evidence of its existence. In such cases electrocardiographic signs of the presence or absence of myocardial disease is extremely valuable. These cases may be divided into the following groups: 1st, the cardiac neurasthenic; 2d, those suffering from acute infectious diseases, and 3d, those harboring focal infections.

The cardiac neurasthenic is always a diagnostic problem for usually there is just enough suggestive history and uncertain physical signs to make the physician reticent about expressing a definite opinion regarding the heart. Nothing in the management of such a patient is more detrimental than uncertainty in the mind of the physician as to the status of the heart. Too frequently he is inclined to prescribe a course of digitalis followed by a period of watchful waiting or to advise the patient to forget his symptoms. If the patient is a true cardiac neurasthenic he is led from bad to worse. If he is actually suffering from organic heart disease there is an unnecessary delay in its discovery. Electrocardiographic evidence, whether positive or negative in kind, is of prime importance and greatly assists in the proper management of such patients.

Every person suffering from an acute infectious disease such as tonsillitis, scarlet fever, diphtheria and especially rheumatism is a potential cardiac invalid and, therefore, requires close observation if early heart involvement is to be detected and serious damage avoided. At times, the changes in clinical signs and symptoms give warning of cardiac injury but unfortunately such signs usually indicate disease already far advanced. Early damage in these cases is usually in the form of conduction disturbances which are impossible to detect except by mechanical methods. A recognition of these facts makes the value of electrocardiographic study apparent.

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Even the laymen quite generally recognize focal infections as a cause of lumbago and arthritis, but many physicians fail to realize their importance as a cause of heart disease. This is probably due to the fact that chronic focal infections seldom attack the endocardium, leading to valvular damage and murmurs, but cause degeneration of the myocardium, leading eventually to decompensation. In the absence of definite physical signs of valvular disease such early signs of myocardial failure as dyspnoea and tachycardia are apt to be discredited and the patient labelled a cardiac neurasthenic. Often the true condition of the cardio-vascular system may not be determined until gross signs of cardiac decompensation are manifest. The electrocardiogram has done much to detect early myocardial degeneration in such patients, thereby avoiding unnecessary delay in prescribing the proper treatment.

There is another group of patients in which full knowledge of the condition of the cardiovascular system is very essential, namely, those patients about to undergo operation. The majority of such patients give a history and show physical signs sufficient to enable the physician to form an opinion as to the cardiac risk and the necessity for special preoperative preparation of the patient. In such cases the electrocardiogram merely gives corroborative evidence of the predetermined presence or absence of cardiac disease. Occasionally, however, and especially in those of advanced years, the electrocardiogram gives positive evidence of unsuspected or overlooked cardiac complications. Such information often greatly modifies the advisability of operation. the preoperative preparation, the type of operation, the kind of anaesthetic to be used, and at times even determines the necessity of the operation.

In order to wisely determine the need of rest, medication, operation or other form of treatment, the physician must have a clear knowledge of the type and extent of the cardiac lesion with which he is dealing. Besides, after treatment has been instituted he must make careful observations in order to gauge its effect. Usually the changes in the physical signs and symptoms are sufficient but at times such changes are indefinite or even misleading. The electrocardiogram goes far toward indicating the type of treatment to be employed and gauging its effect. Physiologic and toxic effects can usually be detected before clinical changes are in evidence. Even in view of apparent clinical improvement the electrocardiogram at times reveals actual progression of the lesion, thereby permitting early modification of prognosis and treatment both immediate and future.

This paper has mentioned the importance of the usual methods of clinical diagnosis in routine cardiac examinations and has suggested the value of corroborative electrocardiographic evidence in such routine analyses. It has also indicated the shortcomings of the usual methods of cardiac examination in certain groups of cases and has stressed the indispensible role of the electrocardiogram in such instances. Its assistance in following the effect of treatment has likewise been shown.

To derive the most benefit from an electrocardiogram one should avoid the temptation to read too much into it. One should consider it only in conjunction with the other findings and should base his final opinion as to etiology, diagnosis and prognosis upon the information obtained from all sources.

A CASE OF TETANUS*

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The reason for presenting this case to this society is because the unusual resistance to classical treatment and the miraculous response to another therapy.

Case No. 2034, Mr. J. J., of Kenesaw, Nebraska, was admitted to The Seeley hospital at Minden, Nebraska, on November 12th, 1929, with a history of having a nail penetrate his foot three days previously. He weighed about 130 pounds and appeared in good health otherwise. The temperature was 106, pulse 100, respiration 26, white blood count 30,800 with 92% polymorphoneuclear; his right foot was swollen and red over the dorsal surface with a red streak up the outerside of the lower limb to the knee. He complained of great pain.

He was given 50 cc of antistreptococcus serum hypodermatically and the leg placed in an elevated position, the foot covered with a solution of magnesium sulphate. Two days later a slough started on the dorsal surface of the foot about an inch wide and five inches long posteriorly and externally from the metatarsal phalangeal joint of the second toe, where the nail penetrated the foot.

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The first aid treatment rendered him on the day of his accident was done by another physician and it consisted of opening wide the wound on the bottom of his foot and packing it with a mercurochrome soaked gauze.

On the 14th his white blood count had gone down to 26,400, his temperature to 101. For the first three or four days his pain required morphine.

On the 24th he again complained of pain in his toes and especially his second toe, and on the 25th he was stiff all over his body and was unable to eat. On this day his rectal temperature was 98.2.

Not having on hand anything but prophylactic doses of tetanus serum we were unable to administer a therapeutic dose of the serum until the 25th at which time we gave him 10,000 units intramuscularly. By this time his muscles were quite rigid over his entire body and when touched would suddenly contract and remain spastic. His jaws were locked and we could give him nourishment only through a catheter inserted through the nostril. On the evening of the 25th we gave him an additional 10,000 units of serum intravenously.

On the 27th, 28th, 29th, 30th of November and the 1st and 2nd of December we gave this patient 10,000 units of tetanus serum intraspinally and 10,000 units intramuscularly. It was necessary to administer chloroform in order to get into the spinal canal due to his opisthotonus. During this time he was getting normal salt solution hypodermatically in addition to chloral and morphine which gave but little rest.

On December 3rd he was given 4 cc of a 25% solution of magnesium sulphate intraspinally with complete relaxation followed by vomiting, purging and shallow respiration. He received 15 grains of calcium chloride intravenously. Also 10,000 units of tetanus serum intramuscularly. On December 3d he was perfectly free from muscular contractions with the exception of the hamstrings of the right leg. During the next 24 hours his tetanus contractions returned and he was given 3 cc of a 25% solution of magnesium sulphate intraspinally with the same previous relaxation but without vomiting and diarrhoea.

Late that same day we gave him 20,000 units of tetanus serum intraspinally. The spinal fluid contained 200 white cells to the cubic millimeter with 90% polys. He was then free from spastic contraction for 36 hours. For the next three days we repeated the same treatment with relief of symptoms for from 24 to 36 hours.

During all this time the patient would be in tetanus spasm except when he has been given magnesium sulphate solution intraspinally, which relaxed all his muscles except those in his right leg which remained stiff, immovable and spastic and twitching.

A small spicula of bone sloughed from the joint involved, was sent to Dr. L. F. Egen of Hastings who obtained a pure culture of tetanus bacilli.

We had used 190,000 units of anti tetanus serum of standard strength and without permanent relief. We felt now that there was a residual infection with tetanus bacilli in the joint of the second toe and that as fast as the toxins were neutralized new toxins were secreted. We also felt that any operative procedure on this foot would prove fatal.

On the 8th day of December we injected 10,000 units of tetanus serum intraspinally and injected a 50% solution of magnesium sulphate in the sciatic nerve, which resulted in marked relaxation of the leg.

Into the tissues surrounding the infected joint a 5% solution of potassium permanganate was injected, infiltrating all the tissue around the joint for about two square inches. This immediately stopped all spasm and on the fifteenth of December he was discharged from the hospital apparently cured.

There remained considerable deformity of the toe due to a sloughing of the joint and a portion of the flexor tendon.

The use of potassium permanganate undoubtedly neutralized the toxins in the original focus in addition to destroying the tetanus bacilli. The use of large amounts of serum neutralized the toxins affecting the central nervous system, and the use of magnesium sulphate brought about relaxation of the muscles, due to its peculiar sedation on the motor nerve fibres.

The case presents a persisting original focus of infection with tetanus bacilli which required local treatment for relief.

DISCUSSION:

V. V. SMRHA, M. D. (Milligan): Was called to see a girl lying in bed having spasms about every 15 minutes or oftener with opisthotomus, giving no history of having had an injury until told that these spasms were like tetanus and that a wound had to be found. Was told she had stepped upon a piece of glass two or three weeks previously but the sore had healed promptly without trouble. Found a callus on her foot, opened the same, took out a tiny sliver of glass, wash out the wound with peroxide of hydrogen, put in a drain saturated with tincture of iodine, bandaged, applied ice locally, and injected 5000 units of tetanus antitoxin on two succeeding days. The girl was well within a week.

A. L. COOPER, M. D. (Scottsbluff): I wish to stress the importance of taking care of the local lesion in tetanus infections, as shown in this case, also in other types of toxic absorption. A point of interest is the effect of the infiltration of potassium permanganate in stopping absorption.

Recently, during the warm weather in April, a man was brought to my office one hour and fifty minutes after being bitten by a large rattle snake, on his left leg. He had put on a tourniquet and had cut into the skin, but his efforts had accomplished little, as is usual. I immediately gave him a dose of Mulfords antivenom serum, then opened the wound by incising through the skin, and cauterized the area with potassium permanganate. He had very little systemic reaction to the venom and little local reaction.

The men who have developed antivenom, feel that the treatment of the local area, even early, is of little value. My experience with four rattle snake bites the last few years disagrees with this. Each was treated locally, early and successfully, the last by addition of antivenom.

Although we now have curative antitoxin for a number of infections, and toxic absorptions, it is still very important to treat, thoroughly, the local lesion.

B. R. McGRATH, M. D. (Grand Island): Tetanus is a terrible disease when it becomes established. It is doubtful if the disease can be cured by tetanus antitoxin. The antitoxin is valuable as a preventative but as the toxin combines with nerve cells it is not acted upon by the antitoxin. Antitoxin may be given in a case of tetanus, therefore, not as a curative measure but only with the idea of heading off uncombined toxin that is still being formed in the wound. Many years ago the use of magnesium sulphate was advocated by Meltzer but later fell into disfavor because of the danger of respiratory failure from the drug itself. Magnesium sulphate treatment came back into favor after Meltzer found that untoward effects of magnesium sulphate could be prevented by the use of calcium chloride.

The tetanus patient does not die from tetanus intoxication. He dies of exhaustion from the terrific convulsions. If he can be carried through without this exhaustion he will recover. This is where the value of magnesium sulphate comes in. It is not an antidote to tetanus poisoning but is an antispasmodic and as such is of value in treatment of the disease.

I once saw Meltzer give a striking demonstration of his treatment of tetanus. A dog had been given a sufficient amount of tetanus toxin so that he was in a state of continuous spasm Through a cannula in the jugular vein, 4% magnesium sulphate was slowly introduced into the dog's circulation. The spasms gradually relaxed but the magnesium sulphate was continued until it began to affect the respiration. It was still continued until the dog apparently had died. Then a small amount of calcium chloride solution was introduced through the cannula. Respiration gradually came back and in a few minutes the dog walked away.

I do not believe that there can be any special value in the use of magnesium sulphate intraspinally. As I previously stated, it is not an antidote to tetanus toxin but is only an antispasmodic and can best serve its purpose given in 4% solution intravenously, or for longer continued effect in 25% solution intramuscularly. The magnesium sulphate treatment has a value in treatment of tetanus but the danger of its use should never be forgotten and calcium chloride solution should always be at hand when magnesium sulphate is being given.

H. S. ANDREWS, M. D. (closing): The same day we injected potassium permanganate into the tissue we obtained permanent relief of tetanus symptoms. We felt it advisable to not do any surgery on the foot at that time.

COMPLICATIONS AND DANGERS FOLLOWING TONSILLECTOMIES*

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Too frequently are the tonsils classified as the cause of all ills; however, we do recognize the fact that they are the causative factor in a good many cases of rheumatism, but only are they the causative factor when they are in a diseased condition. Moore (*Medical Record*, 1916) reported a case in which the operation was done for polyneuritis, with the result that the neuritis spread to all parts of the body. In this case there has been no history of any previous attack of tonsillitis within thirty years. Moore thinks the widespread polyneuritis which followed the removal of the tonsils was due to shock, increasing the susceptibility of nerve tissue to an already existing toxin in the blood or some reaction in metabolism, or a bacterial toxin in the throat, perhaps from the sloughing post-operative areas.

The most frequent complication following tonsillectomy is hemorrhage. Quite a large number of fatal hemorrhages have been reported and there are a very great number of alarming hemorrhages following tonsillectomies, which cause the physician a lot of worry and a good many sleepless nights.

Doctor Mathews, while at Mayo Clinic, reported one thousand consecutive tonsillectomies where there were no severe primary hemorrhages. Some degree of bleeding within twenty-four hours was noted in thirty per cent of the cases, less than half required any medical attention. Late secondary hemorrhages occurred in thirty-four cases, four on second day, two on third day, three on fourth day, six on fifth day, eight on sixth day and ten after the sixth day, only three of which required the services of a physician.

I remember one case that I was called in to see who had had the tonsils removed by a very good man in Omaha, eight days before, and suddenly about three a. m., the patient began to bleed quite freely from one side. In this case there was delayed healing, with quite a thick false membrane covering the fauces and it was the sudden loosening of this membrane that caused the bleeding. I had one case of my own that had quite a severe hemorrhage seven days after a tonsillectomy.

Sepsis following tonsillectomies is not so infrequent as may be supposed, some of which will run a fever of several weeks without endocarditis or other lesions, a few will be combined with endocarditis and usually prove fatal. A few cases are reported every year of sepsis of a hemolytic type with ecchymosis, hemorrhage and bronchopneumonia. I have never had a case of this kind. Quite a number of cases have been reported of sepsis complicated by sinus thrombosis, cellulitis, facial paralysis, gangrene, edema of glottis and retropharyngeal abscess.

I have in my practice four severe cases of infection following tonsillectomies. In all these four cases there was an abscess formed in the muscular layers of the neck just latterly or behind where the posterior part of the tonsil had rested. There was present almost the same symptoms as you will find in a case of quinsy. In all of these cases, the abscesses were successfully lanced and contents evacuated. All four of these cases gave me a lot of worry and took up a lot of time but all recovered. Quite a number of neurologic sequelae follow tonsillectomies, most of which recover without any serious results, however, a few cases have been reported of glottic spasm in such a severe form that tracheotomy had to be resorted to. Chorea and paralysis of soft palate, also facial paralysis have followed tonsillectomies in a few cases. Some of the more remote complications following tonsillitis are pulmonary embolism, emphysema, pleurisy, diphtheria, appendicitis, etc.

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*Read before the Buffalo County Medical Society, Kearney, April 18, 1930.

H. H. Vale (*Archives of Otolaryngology*, July, 1928), reviewing the literature with reference to blood aspirated during tonsillectomies under ether anesthesia, in the first series of one hundred cases in which bronchoscopy was performed after a tonsil and adenoid operation. Myerson found seventy-nine patients had aspirated blood into the tracheal bronchial tree. In his second series of one hundred cases he found seventy-six had aspirated blood into the tracheobronchial tree. Louis Daily and R. K. Daily found that seventy-eight cases out of one hundred had aspirated blood. Cincinnati General Hospital reported that sixty-two out of one hundred cases have aspirated blood. Myerson followed up his cases in his first series, one patient died of bronchial pneumonia, the other series were not followed up well enough to make any final report upon the sequelae following operation.

It is well for us to know that a large per cent of tonsil and adenoid cases may have aspirated blood during operation or after, while the patient is still under the effects of the ether anesthesia.

These series of cases should lead us to try and not let the patient aspirate any blood by carefully using suction during the operation and immediately after, also to have bleeding stopped from the first tonsil removed, before removing the other tonsil and see that the bleeding has stopped from the latter before removing the patient from the operating table.

E. P. Miller (*Wisconsin Medical Journal*, 1922, page 234) reports a case of quite sudden death in a syphilitic woman patient, age forty-four, within forty-eight hours following operation under local anesthetic, one-half of one per cen solution of novocaine being used. The patient bled considerably following the operation but at the end of twenty-four hours seemed to be in good condition. A few hours later the patient seemed to go into a condition of shock and died in another twenty-four hours.

Some of the local complications following tonsillectomies are due to inexpert surgery, faulty technic or both. Quite a number of cases examined following operation will be found to have adhesions of the pillars which may be severe enough to cause impairment of the voice, some difficulty in swallowing and impairment in the hearing, due to an obstruction of the lower end of the eustachian tube. Probably one of the most frequent local sequelae following tonsillectomy, under general anesthesia is the misfortune to catch the uvula in the wire loop of your snare, with the resulting retraction of the soft palate. I had the mistfortune to have this happen to me in a case where the child was not well under the anesthetic and perhaps I did not use sufficient diligence to see that the uvula was not caught in the snare before the loop of the snare was closed, at any rate I am not very proud of that operation.

Ear-ache is present in a large number of cases following tonsillectomy, due in my opinion to the beginning contraction of the pillars and slight pulling on eustachian tube. In these cases if you will carefully examine the ear-drum, you will find it looks quite normal, both in color and position.

CONGENITAL ABSENCE OF GALLBLADDER

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Congenital absence of the gallbladder is a rare anomaly, this being the first seen by the writer in twenty years experience. Mentzer (*A. M. A.*, Oct. 26, 1929) states that "congenital absence of the gallbladder has been reported in about fifty patients".

History: Patient, Miss L. N., age 20, sought relief for pain in the right abdomen. Past and menstrual history of no moment.

Patient's present illness dates back three years when she began to suffer from pain in the lower right abdomen which lasted two days. This pain was recurrent at intervals until about a year ago when the pain became constant and of a dull aching type with cramps at recurrent intervals. She never had an acute attack of appendicitis. Recently she has had considerable dizziness and constipation with a low backache.

Examination revealed a well-nourished young woman with a muddy complexion and marked acne. The tonsils were slightly enlarged and inflamed. Heart and lungs negative, BP/120/80, abdomen, marked gastric distension with marked spasm and tenderness over the gallbladder and appendix regions and slight tenderness over the colon.

Blood Examination—Hb. 89, R. 4680000, W. 11100, N70 SM 23-LM-4-E3+U.

Urine Examination—Sp. Gr. 1025. Reaction acid microscopic Epi.++.

Graham-Cole test of the gallbladder failed to visualize that organ.

Preoperative diagnosis: Appendico-biliary syndrome; colitis; chronic tonsilitis.

Operation: On opening the abdomen the liver was enlarged and dark red in color. There was no evidence of adhesions in the gallbladder region. No evidence of a gallbladder could be found. The hepatic ducts were traced to the common duct and this to the duodenum. No malformation of the vascular supply was noted. No evidence of an atropic remains of a chronic gallbladder which has been noted in several cases by the writer. Opening the gastrocolic membrane revealed the duodenum to pass about two inches to the right of the pyloris and then loop down and to the left so that it was approximately two inches below the greater curvature of the stomach. The appendix was the chronic type bound down by adhesions.

The patient made an uneventful postoperative recovery and returned home with instructions relative to the hepatitis and colon and advised to have the tonsils removed as soon as possible. This she has not done to date. The results in this case have not been entirely satisfactory. Her acne has cleared considerably. The color of the skin has improved markedly and her digestive symptoms are much less, but the results are not as satisfactory as desired.

Comment: This case tends to substantiate a theory which I have had for several years, namely, that the infected gallbladder is an incident rather than the chief factor in this syndrome. That the liver and hepatitis is the prime factor and that the results of gallbladder surgery depend largely upon the postoperative attention given to the hepatitis.

In this particular case we cannot expect wholly satisfactory results until the chronic tonsils are removed. In my opinion, these tonsils are keeping the hepatitis active. When the causative factors as an infectious hepatitis are removed the liver responds very nicely to dietary and medical treatment.

ROCKY MOUNTAIN SPOTTED FEVER*

REPORT OF TWO CASES IN WESTERN NEBRASKA

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Our purpose in appearing before you with a paper on a subject to which such men as Ricketts, Anderson, Spencer, Parker, and others have given so much time and thought, and have made such valuable contributions, is not to add to their reports, except to inform you on the appearance of the disease in western Nebraska.

One must make such reports with regret because of the prolonged debility, the high mortality rate of this disease, and its effect on the economic status of any community. Although Spencer in one report includes western Nebraska in the infected area, a search of the records of this state and those of the U. S. P. H. laboratory at Hamilton, Montana, fails to show any previous record of a case with this infection originating in Nebraska.

Rocky Mountain Spotted Fever, as defined by Spencer, is an acute, specific, noncontagious, tick-borne disease, endemic in the northwestern part of the United States.

In human beings, this disease is caused by inoculation of the virus through the bite of an infected wood tick.

The large wild and domestic animals are, so far as known, immune to infection, but play an important role in that they serve as host to the adult tick. Some ten or twelve species of small wild animals serve as host, and are susceptible to this infection. Because of this dual function, these animals are largely responsible for the spread of the Rocky Mountain Spotted Fever virus in nature. Among these species are the ground squirrel, pine squirrel, chipmunk, woodchuck, badger, prairie dog, white tailed jack rabbit, cottontail, and snowshoe rabbit.

This disease in man and animals is usually followed by pronounced and prolonged immunity.

Rocky Mountain Spotted Fever has been reported in parts of the states of Washington, Oregon, California, Nevada, Utah, Montana, Wyoming, Colorado, North and South Dakota, and now Nebraska. The disease is seasonal, usually appearing after a few warm days in the spring. July 15th is considered the end of the season. Two types are commonly described, dependent upon the severity of the symptoms, and the mortality rate. They are known as the Bitter Root strain, and the Idaho strain. The former has a mortality rate of approximately 90%, while the latter rarely exceeds 5%. The strains merge into each other clinically, the more severe type being found in Idaho and vice versa.

The average incubation period in man, following inoculation, is four to seven days. Following a day or two of malaise, vague aches, and pains, and possibly slight fever, the patient has a chill, rapid rise in temperature to 104° F. and up, remaining high for seven to ten days, with morning remissions and falling by lysis. Severe frontal headache, photophobia, anorexia, backache, soreness of the muscles, easily ellicited by deep pressure over the calf muscles, and epistaxis, are pronounced symptoms. The exquisite tenderness of the skin is diagnostic, patients complain of the pressure of the bed sheet or a draft of air. Constipation is usual. Restlessness, insomnia, and in our two cases active delirium, exhausts the patient.

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*Read before the meeting of the Twelfth Councilor District Medical Society, Scottsbluff, September 19, 1930.

The facial expression is anxious, cheeks flushed, and dusky, conjunctiva injected. The rash appearing on the third to the seventh day, or later, is the outstanding physical sign. Seen first on the wrists and ankles as a rose colored macular or maculo-papular eruption, becomes general, then petechial, then dark purplish and confluent in the more severe cases. Dependent parts may become necrotic. A pulse rate up to 120 is considered satisfactory, but a sudden rise to 130 or 140 is a grave sign. The scanty, highly colored urine often contains albumen and casts, which is of serious import. The blood picture is not characteristic.

Quoting R. R. Spencer, we may say, "no completely successful method of prevention has been devised." Perhaps the tick parasite introduced in 1926 will show results in the next few years. Tick eradication is fraught with almost insurmountable difficulties. To appreciate this we must realize that an adult tick deposits from 3,000 to 7,000 eggs in the late spring or early summer, which hatch into seed ticks. These develop into nymphs the following summer, and a year later are adult ticks. The latter may live up to six years, but average from three to four. A bite from this adult tick, if infected, confers the disease to man.

The most effective method of prevention for those who must enter the known infected area is to examine the clothing, and the body for ticks at least twice a day. Ticks do not attach themselves at once, and as a rule do not infect their host before several hours after attachment, frequent thorough inspection may be effective. If bitten, the area should be cauterized with nitric acid, silver nitrate, or iodine.

Spencer and Parker have perfected a serum with great prophylactic value. This serum, if needed, may be obtained from the U. S. P. H. laboratory at Hamilton, Montana.

Treatment is prophylactic and symptomatic. Absolute rest from the onset to recovery is imperative. Energy must be conserved. Digitalize at once. Mild soporifics, concentrated nourishing food, liquids freely, are indicated. Strychnine should not be given, at least not until lysis is well established. Avoid depressants; promote elimination.

Both cases seen by us recovered, hence, probably were of the Idaho strain.

Case No. 1, E. P., dairy farmer, 44 years old, married. Poor health as engineer on eastern railroad. Came here last spring from Iowa. Was first seen by me on May 12, 1930. I will quote from our records of this visit. "Family history negative. Personal history: gassed in army service in 1918, poor health since. Nothing else of importance in history. Present complaint began four days ago with a period of extreme exhaustion after helping brand a calf, slight malaise continued until two days ago when he had a severe chill followed by high temperature, extreme hyperesthesia of the feet and legs, photophobia, anorexia, muscle and joint pains simulating acute rheumatic fever, but we find no local joint signs. Conjunctiva injected, cheeks flushed and dusky, tongue heavily coated, tonsils and pharynx injected, no membrane, breath fetid. Temperature 104° F. Pulse 98 per minute, good quality. Heart and abdomen negative. Lungs show fibrosis, but no signs of acute pathology. Skin of chest and legs show pin-point rash attributed by patient to working in heat and alkali dust. Urine Sp. Gr. 1.010, dark, acid, trace albumin, no casts. R.B.C. 3,900,000, W.B.C. 10,800, Hemo. 85%, differential count normal. Diagnosis deferred. Given sedative and salicylates." Two days later: "The rash is larger, color deep red to purple. Temperature 104° F. Pulse 108. Very toxic. Now questioned about wood tick bite, and he reports that four days before he called me he had taken a tick off his neck when he came to the house for dinner, but this was not unusual to find wood ticks, so thought nothing of it. Suspect Rocky Mountain Spotted Fever." His condition became more grave until the seventh day he became delirious. The case was now reported to Dr. Bartholomew at Lincoln, and R. R. Parker at Hamilton, Montana. Specimen of blood was sent to the latter.

About the twelfth day the temperature began to subside by lysis, and delirium cleared. He has had an uneventful, but very slow recovery. Dr. Parker reported a positive Weil-Felix reaction on the blood. Patient now reports that he is gaining weight and strength slowly, but is not yet up to par.

Case No. 2, Hans, sheepherder, age 44, single, working two miles down stream from the home of E. P. History obtained from employer for whom Hans has worked for the past 20 years, negative except for influenza, 3 days in 1918. Present illness began three days ago (July 16, 1930) when Hans began to slow up, wanted to lie in the shade all the time. Next day could not work, came to the ranch house, and laid around until the fifth day, when he saw a chiropractor, who told him he had the measles. The ninth day of his illness I saw him at the ranch, and again quote from our records: "Patient in bed, delirious, conjunctiva injected, cheeks flushed, tongue heavily coated, breath fetid, few rales, heart and abdomen negative. Petechial rash over entire body. Hyperesthesia of legs and feet. Unable to obtain intelligent answer as to pain." The patient was removed to a hospital, digitalized and because of history of alcoholism, was given alcohol t.i.d. Temperature 103.8° F. Pulse 120. Urine scanty, dark, sp. gr. 1012. No albumen or casts. Hemo. 80% R.B.C. 4,590,000, W.B.C. 14,000. Blood specimen sent to Dr. Parker, who reported later a positive Weil-Felix reaction. His condition remained essentially the same for eight days, when the delirium cleared, the temperature dropped by lysis, and he made an uneventful slow recovery, returning to work after eight weeks. After recovery he remembers having been bitten by a wood tick several days before the onset of his illness.

Mr. C. B. Philip of the U. S. P. H. Service conducted an investigation in August. His report will undoubtedly be published later. His tentative opinion is that the source of the infection was imported, rather than an endemic focus. Further investigation will probably be made next year.

Rocky Mountain Spotted Fever has arrived in northwestern Nebraska, and we should all be alert to the situation. The geographical location of the Niobrara and Platte valley and the custom of importing Wyoming and Montana stock into the country annually, warrants the apprehension, that other parts of western Nebraska harbor infected ticks. There being as yet no effective treatment for this serious disease, prophlaxis is most important. Scare heads with newspaper publicity is frowned upon for economic reasons, but the laity should be informed of the dangers of tick bite, and be instructed in preventative measures. Purely local attempts at prevention may not seem practical at this time, but Dr. Bartholomew, Director of Public Health in Nebraska, and collaborating epidermologist, U. S. P. H. S., and R. R. Parker, special expert in charge U. S. P. H. S. at Hamilton, Montana, are in touch with the general situation and have promptly and effectively cooperated with us in our local problems.

BIBLIOGRAPHY

Bartholomew, P. H.: Personal Communication.

Fricks Lunsford, D.: Rocky Mountain Spotted Fever; Tice: Practice of Medicine. Vol. V: 49-67.

Kerlce, A. L., and Spencer, R. R.: Rocky Mountain Spotted Fever, Public Health Records (Jan. 25, 1929) 44; 179-182.

The Montana State Board of Entomology. Seventh Biennial Report 1927-1928.

Ormsby, Oliver S.: Diseases of the Skin 1915, pp. 472-474, Lea-Febiger.

Osler-McCrea: Principles and Practice of Medicine. 9th Edition 1922, pp. 377, Appleton.

Parker, R. R.: The Control of Rocky Mountain Spotted Fever in the Bitter Root Valley: The Montana State Board of Entomology. March 1921, Circular I.

Philips, C. B.: Personal communication.

Spencer, R. R.: Rocky Mountain Spotted Fever. The Journal of Infections Diseases, 1929 April, 44:257-276.

Spencer-Parker: Rocky Mountain Spotted Fever. Viability of the Virus in Animal Tissues. Public Health Reports, January 11, 1929, 29:55.

Spencer-Parker: Rocky Mountain Spotted Fever. Vaccination of Monkeys and Man. Public Health Reports, October 9, 1925, 40:2159-2167.

Studies on Rocky Mountain Spotted Fever, Jan. 1930. Hygenic Lab. Bulletin No. 154. U. S. Treasury Dept. Public Health Service, Wash. D. C.

THE VOLLBEHR INCUNABULA

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Students of medicine acquire most of their knowledge from the printed word, and they naturally become interested in the historical side of any method from which they obtain most of their knowledge. The art of printing interests anyone who devotes a certain amount of his time to the development of his mentality and culture. Material development of an individual or a nation easily surpasses mental development whenever the environment facilitates the rapid acquisition of wealth. In due time, however, wealth develops culture and in turn brings interest in art.

The recent action of the United States Congress in the purchase of Vollbehr's collection of incunabula is most significant. What relation this most valuable collection of early books has to the study of medicine will only be questioned by those who are interested solely in the practice and remunerative side of the ills of mankind. The Vollbehr Collection consists of 3,000 volumes on religion, astronomy, natural science, law, geography and cosmogony, chess, cookery, matrimony, war, classics of imaginative literature and medicine.

The recent owner, Doctor Otto H. F. Vollbehr, a bibliophile of Berlin, spent many years in collecting these books, and first brought this treasure to America in 1926, when he exhibited it before the Eucharistic Congress in Chicago. It contained numerous examples from all the great European cities of all ages, and also books printed at Avignon, the seat of the Popes in the fourteenth century.

In this remarkable collection of incunabula one naturally finds many books on religion, such as missals, breviaries and patristic literature, exclusive of fifty-five Bibles. The collection, however, is exceptionally well balanced, containing as it does some forty-nine works on astronomy, fifty-one on natural science, more than fifty on law, thirty-four on geography and cosmography, twenty-two Orientalla, not including books in Hebrew, twenty concerning the discovery of America out of a total known of thirty-two, books on chess, cookery, history, matrimony, philosophy, travel, temperance, war and 159 volumes on medicine.

In this collection one can also find 300 classics. the earliest printed editions of Apuleius, Caesar, Cicero, Homer, Horace, Livy, Catullus, Aristophanes, Herodotus, Euripides, Plutarch, Seneca, Ovid, Aesop and Vergil, as well as the great humanists, Dante, Petrarch, Boccaccio and Erasmus. Among the books on astronomy and cosmography are to be found the writings of such authors as Pomponius Mela, Ptolemy, Strabo, Alfonso X of Spain and Alfragan, the Arabian. In medicine it contains the works of Hippocrates. Celsus, Galen, Henricus de Saxonia and Brunschwig, besides various editions of the Herbarius and Hortus Sanitatis. The great religious names of St. Augustine, Savonarola, de Aquinas, Bonaventura, Duns Scotus and Hieronymus are associated with the famous scientific works of Albertus Magnus, Bartolomacus de Glanvilla, Brunetto Latini, Nicolaus de Cusa, Isodorus Hispalenes and Pliny.

It also consists of a number of the ancient law codes, treatises and compilations, including Justinian's Institutions, the great Spanish code known as Las Siete Partidas which is still cited in Louisiana and other parts of this country. There are also found early English statutes, French customary law and royal ordinances.

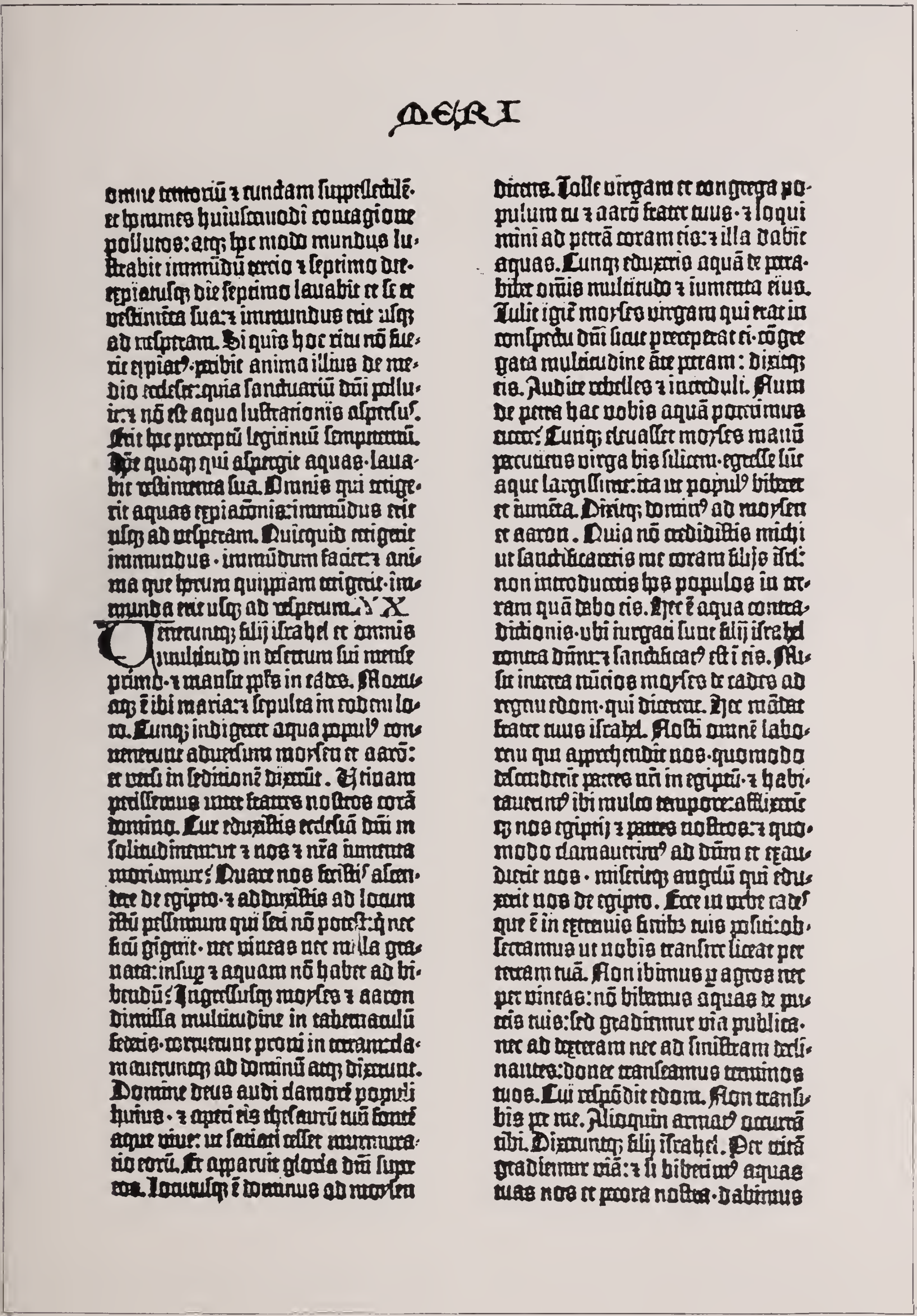
Early American history is also cited in this collection, such as the Historia Baetica, printed at Basel in 1494, and contains the celebrated Columbus letter of February 15, 1493, and six woodcuts ilustrating the discovery of America; and it also contains Sebastion Brant's Ship of Fools. Baptista Mantuanus' De Patienta, as well as works by Coccius and Corvinus.

It contains, above all, the most beautiful examples of printing from Gutenberg, Fust and Schoeffer, the earliest European printers; Mentel, Eggestein and Rusch, the 'R' printer of Strasburg; Zainer and Baemler of Augsburg; Anthony Koberger of Nuremburg, the first captain of the printing industry; Ulrich Zell of Cologne, who is said to have printed the first Latin classic, and Heinrich Quentell of the same city. From Italy, where printing flourished to a reasonable degree, one finds the great names of Sweynheym and Pannartz, the first printers in that country, as well as Wendelinus Spira, Jenson, Plannck, Hahn, Zarotus, de Tortis and a host of others, including the incomparable Aldus Manutius of Venice. France is represented by Huse of Lyons, and Caillaut. Petit, Marchant and Varard of Paris; Spain by Ungut and Rosenbach, including a few others; Switzerland by Furter, van Amerbach and Kessler; the Low countries by Leon and Ballaert, and from England we find the rare collections of Caxton and Pynson and Wynken de Worde.

The Gutenberg Bible holds supremacy among all books. It is the Bible; as literature to us, the Supreme Book. As the Gutenberg, it is the surpassing edition; in itself a surpassing achievement in printing, and the first book of consequence printed in Europe. The copy possessed is one of three on vellum surviving, and in all the world of art there is not one example possessing absolute primacy such as this book has in the world of books. Its example of printing has never been excelled, even up to modern times, and it indicates that the art of printing must have flourished long before the fifteenth century. The Gutenberg Bible is commonly so called because it is supposed to have been printed by Johann Gutenberg, the reputed inventor of the printing art. It is a folio of 1,282 pages, in two columns with spaces left for illuminated initials. Each column contains forty-two lines as illustrated by Figure 1. Supposedly, about 300 copies of this Bible were printed, the greater number on paper, a few on vellum.

The term "incunabula" is a long word with an easy meaning; it is derived from another Latin word, cunae, which means cradle and when generally used, means the earliest stages of anything. Exactly when and where the art of printing by the method of movable types was first practiced in the western civilized world, is still a matter of dispute. The Gutenberg Bible. completed in the year 1456, which has never been surpassed in the art of printing, is reputed by some to be the first example. It hardly seems conceivable that the first example in the printing art, unlike all other arts, should be practically unexcelled for some centuries afterwards. Since in the Summer of 1930, the new discoveries in the Valley of the Euphrates brought forth examples of art which in many ways are quite similar to the present day, we might well expect at most any time that this same territory may prove that the art of printing developed thousands of years before the Gutenberg Bible came forth in the so called "cradle of printing".

Until there is a collection of old books, relevant or irrelevant directly to the art of medicine, in at least one of its numerous libraries, America, and particularly the United States, can hardly expect to ever become the world's center of medicine.



MERI

omne tentoriū ⁊ cunctam ſuppellectilē· et homines huiuſcemodi contagione pollutos: atq; hoc modo mundus luſtrabit immundū tercio ⁊ ſeptimo die· expiatuſq; die ſeptimo lavabit et ſe et veſtimēta ſua: ⁊ immundus erit uſq; ad veſperam. Si quis hoc ritu nō fuerit expiatꝰ· peribit anima illius de medio eccleſie: quia ſanctuariū dn̄i polluit: ⁊ nō eſt aqua luſtrationis aſperſus. Erit hoc preceptū legitimū ſempiternū. Ipſe quoq; qui aſpergit aquas· lavabit veſtimenta ſua. Omnis qui tetigerit aquas expiatōnis: immūdus erit uſq; ad veſperam. Quicquid tetigerit immundus· immūdum faciet: ⁊ anima que horum quippiam tetigerit· immunda erit uſq; ad veſperum. XX

Veneruntq; filij iſrahel et omnis multitudo in deſertum ſin menſe primo· ⁊ manſit pp̄ls in cades. Mortuaq; ē ibi maria: ⁊ ſepulta in eodem loco. Cumq; indigeret aqua populꝰ convenerunt adverſum moyſen et aarō: et verſi in ſeditionē dixerūt. Utinam periiſſemus inter fratres noſtros corā domino. Cur eduxiſtis eccleſiā dn̄i in ſolitudinem: ut ⁊ nos ⁊ nr̄a iumenta moriamur? Quare nos feciſtiſ aſcendere de egipto· ⁊ adduxiſtis ad locum iſtū peſſimum qui ſeri nō poteſt: q̄ nec ficū gignit· nec vineas nec malagranata: inſuper ⁊ aquam nō habet ad bibendū? Ingreſſuſq; moyſes ⁊ aaron dimiſſa multitudine in tabernaculū federis· corruerunt proni in terram: clamaveruntq; ad dominū atq; dixerunt. Domine deus audi clamorē populi huius· ⁊ aperi eis theſaurū tuū fontē aque vive: ut ſaciati ceſſet murmuratio eorū. Et apparuit gloria dn̄i ſuper eos. Locutuſq; ē dominus ad moyſen dicens. Tolle virgam et congrega populum tu ⁊ aarō frater tuus· ⁊ loquimini ad petrā coram eis: ⁊ illa dabit aquas. Cumq; eduxeris aquā de petra· bibet omīs multitudo ⁊ iumenta eius. Tulit igit̄ moyſes virgam que erat in conſpectu dn̄i ſicut preceperat ei· congregata multitudine ante petram: dixitq; eis. Audite rebelles ⁊ increduli. Num de petra hac vobis aquā poterimus eicere? Cumq; elevaſſet moyſes manū percutiens virga bis ſilicem· egreſſe ſūt aque largiſſime: ita ut populꝰ biberet et iumēta. Dixitq; dominꝰ ad moyſen et aaron. Quia nō credidiſtis michi ut ſanctificaretis me coram filijs iſrl̄: non introducetis hos populos in terram quā dabo eis. Hec ē aqua contradictionis· ubi iurgati ſunt filij iſrahel contra dn̄m: ⁊ ſanctificatꝰ eſt ī eis. Miſit interea nūcios moyſes de cades ad regem edom· qui dicerent. Hec mādat frater tuus iſrahel. Noſti omnē laborem qui apprehenderit nos· quomodo deſcenderint patres nr̄i in egiptū· ⁊ habitaverimꝰ ibi multo tempore: afflixerintq; nos egiptij ⁊ patres noſtros: ⁊ quomodo clamaverimꝰ ad dn̄m et exaudierit nos· miſeritq; angelū qui eduxerit nos de egipto. Ecce in urbe cades que ē in extremis finibꝰ tuis poſiti: obſecramus ut nobis tranſire liceat per terram tuā. Non ibimus ꝑ agros nec per vineas: nō bibemus aquas de puteis tuis: ſed gradiemur via publica· nec ad dexteram nec ad ſiniſtram declinantes: donec tranſeamus terminos tuos. Cui reſpōdit edom. Non tranſibis per me. Alioquin armatꝰ occurrā tibi. Dixeruntq; filij iſrahel. Per tritā gradiemur viā: ⁊ ſi biberimꝰ aquas tuas nos et pecora noſtra· dabimus

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ANNUAL DUES

If your dues are not now paid, you are delinquent and not entitled to the benefits of Medical Defense or *The Journal*. Send $8.00, plus your county society dues, to your county society secretary at once.

CALL FOR PAPERS

If you wish to read a paper before the next annual meeting of the Nebraska State Medical Association, send your name and title as soon as possible to the office of the secretary, Dr. R. B. Adams, Centre McKinley Building, Lincoln, Nebr.

WITHOUT VISION, WE PERISH

In these days of organization of all lines of endeavor it should require no argument to convince any physician that his greatest hopes must lie in his membership in organized medicine and in his interest in the work the organization is endeavoring to promote. Forward looking men in the medical profession believe that State Medicine is threatening the very foundation of medicine as it exists today. Against this we must present a united front. The physician who does not ally himself with medical societies, or, being a member, allows himself to lapse for no good reason, is a losing member of the medical profession. Cast about you. If you know a physician who is not a member, never has been a member, or having been one has lapsed for want of interest, you know a man who is losing out in his professional career.

POOR MAN WITHOUT FUNDS, PROPERTY, OR CREDIT, WARD OF COUNTY, NOT OF DOCTOR

As early as 1884 the courts of Nebraska were invoked to decide the rights of physicians and to state the obligations of counties with reference to the poor and indigent who may become ill or injured and require the services of a physician.

Section 5153 of the Compiled Statutes provides "that whenever any non-resident, or any other person not coming within the definition of a pauper, shall fall sick in any county of this state, not having money or property to pay his or her board, nursing, or medical aid, it shall be the duty of the overseers of the poor, of the precinct where such person shall be, to furnish such assistance to such poor person as they shall deem necessary, etc."

In the case of Gage County vs. Fulton (N. W. Reporter, Vol. 19, p 781), decided in 1884, the supreme court said: "It will be seen that the duty of maintaining paupers, and persons not coming within the definition of paupers, who shall fall sick in any county of this state, and not having any money or property to pay his or her board, nursing, and medical aid, devolves upon the counties; in other words, the statute makes the counties legally liable for the same."

More recent decisions of the supreme court in somewhat related cases are cumulative. (See Plumb vs. York County (N. W. Reporter, Vol. 46, p. 938); Shidler vs. York County (N. W. Reporter, Vol. 146, p. 949).) The case of Anderson vs. Pawnee County also bears out the earlier decisions. The most recent case bearing on and clarifying the rights of physicians and the duty of county authorities is that of Neslund vs. Dawson County, decided by the supreme court commission about two years ago and referred to in this *Journal* editorially, July, 1929, part of which we again quote:

"This does not mean that the board may arbitrarily avoid liability by a heartless disregard of the most obvious necessities of suffering humanity."

"The service of a surgeon or physician cannot be required as a matter of charity."

"In case of emergency the physician may hold the district liable although he acted without the request or consent of the person designated as overseer of the poor."

"In a proper case the physician may hold the district liable even in the face of the refusal of consent, if lawfully or arbitrarily withheld."

"Neither the county commissioners nor the town supervisors can turn their backs upon the proper claims of a poor person."

"Nor can it be said that the unfortunate pauper, who has met with an accident requiring instant succor is to be remediless; the county or town must provide for him as soon as they may."

The Neslund vs. Dawson County case, it seems, hinged largely on the definition of the term "indigent". It was shown that the father of the injured boy was working at the time of the accident, but was without ready money and was without credit in town. Webster defines "Indigent: Destitue of property or means of comfortable subsistence."

All this points clearly to the proposition that the county is liable not only for paupers, but for emergencies occurring to indigent persons within their jurisdiction.

Medical men have had much difficulty with county authorities taking the proper viewpoint and it is possible that lack of diplomacy in presenting the cases was at the bottom of at least some of them. The above references indicate that the courts have passed upon the question a sufficient number of times to clarify the matter and nothing but absolute stubborness on the part of the board can account for refusal to accept obligation in these cases.

A recent case settled by the county board may be of interest in this connection: A married man, father of four children, a fifth child expected, ranch laborer at prevailing wages, suffered a violent attack of appendicitis. The physician consulted diagnosing imminent rupture, at once took the patient to a hospital and he was operated upon without delay. The patient had stated that he was without money and that he usually drew advances on his wage account. The physician, immediately after the operation, notified the county commissioners of the case and facts pertinent thereto, and stated that under the circumstances the county board would be asked to assume the financial obligation. In due time bills were rendered by the hospital and by the physician and surgeons and the supreme court decision in the Neslund vs. Dawson County case was cited for authority. Later the board asked the physician to appear before them and in a quiet, dignified manner the matter was fully explained and the decision of the supreme court read, whereupon the county attorney, being asked for his opinion, stated that, assuming that the emergency claimed, existed, the county was liable. The bills were allowed.

The facts above given and citations made should make it easy for physicians throughout the state to show to the county authorities the law and decisions appertaining thereto and to convince them of the rights and duties of the respective parties in cases coming under Section 5153, Compiled Statutes relating to paupers and indigents.

HOW MANY DOCTORS CARRY PROFESSIONAL LIABILITY INSURANCE?

Every physician and surgeon is a potential victim of a malpractice suit. In the larger centers of population malpractice suits may be said to be endemic and the medical profession is fully awake to the situation, but in places remote from the larger centers malpractice suits up to this time are not common and the medical men have not yet become fully aroused to the danger confronting them. The danger is real: malpractice suits are becoming more common and no physician is proof against the possibility of being sued—no matter how well he does his work.

Very recently the supreme court affirmed a judgment of the lower court for $25,000 against a physician in one of our metropolitan cities in a case hinging on a matter of diagnosis. Many physicians believe the judgment should not have been rendered in this case in the first instance. This physician carried professional indemnity insurance for $10,000. It appears, therefore, that the tendency of the times is for larger judgments and that insurance of $10,000 is not adequate, in many cases.

It is not the province of this *Journal* to tell the members of the profession what they shall buy or from whom they shall purchase indemnity insurance, but it will not be out of place, by way of example, to state that under the Group Professional Liability Plan of our State Association a 10/30 policy costs $20 a year and a 50/100 policy costs $46. A 10/30 policy pays up to $10,000 in one case and not to exceed a total of $30,000 in several cases in one year. The smaller increased cost of the larger policy should by preference sell it to all buyers of indemnity insurance. When you buy professional indemnity insurance, buy enough—and do not further neglect to protect yourself.

Nurse (going off duty): "Is there anything else you wish, sir?"

Patient: "Yes, kiss me good night."

Nurse: "I'll send in an orderly—he does the dirty work."

AN APPRECIATION OF DR. WELCH'S REPORT ON MEDICAL EDUCATION

Communications like the one from the headquarters of the American Medical Association, subjoined, lead one to wonder whether we, as a profession, realize and appreciate what some of our own officials are doing for organized medicine. One even wonders whether the report of Dr. J. S. Welch, delegate to the Council on Medical Education and Hospitals, was generally read by Nebraska physicians. If it has been overlooked, the following should be a reminder to hunt up the December *Journal* and read it. The communication refers to the article entitled "Report of the 1930 Congress of the A. M. A. Council on Medical Education and Hospitals", a masterly document, presented at the annual meeting of the Nebraska State Medical Association last May:

> December 4, 1930.
>
> "Dear Doctor Welch:
>
> I have just been reading your report of the Conference on Medical Education, held in Chicago last February, in the last number of The Nebraska State Medical Journal. I want to express my appreciation of this admirable summary of the proceedings of that Conference. I am sure that if in every state some physician were to attend these conferences, say as a delegate, and then make such an admirable, clear, appreciative report of what occurred as you have made in this one, it would extend the usefulness and influence of the work of the Council on Medical Education and Hospitals very greatly indeed.
>
> If the influence of the American Medical Association is to be felt to the fullest possible degree, then the individual members of the Association, in much larger numbers than has heretofore been the case, must be kept in close touch with the work which is being done by the Association—by its councils and bureaus—and must lend their influence to acquaint the public with these matters.
>
> I am sure your report will do a lot of good."
>
> Yours very sincerely,
>
> JOHN M. DODSON, M. D.,
> Director, Bureau of Health and Public Instruction.

FORTHCOMING COLLEGE OF SURGEONS MEETING AT LINCOLN

The Sectional Meeting of the American College of Surgeons will be held in Lincoln on February 9th and 10th.

An invitation is extended to all physicians. Interesting clinics will be provided at all the hospitals for each forenoon. Hospital conferences and scientific meetings will be of especial interest, as well as clinical addresses by men of note.

Programs will be sent out to physicians throughout the state in time to advise them of the meeting more in detail.

I. C. MUNGER,
Chairman of Publicity Committee.

THE AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The American Board of Obstetrics and Gynecology has been organized to grant certificates indicating proficiency and specialization in Obstetrics and Gynecology to those who comply with its requirements. This Board was elected by representatives of the American Association of Obstetrics and Gynecology, the American Gynecological Society and the Section of Obstetrics and Gynecology of the American Medical Association.

"It puts into action a determined effort on the part of these three national organizations to improve the standards of practice of obstetrics and gynecology. It expects to accomplish this by various activities, such as the investigation and encouragement of graduate extension study facilities and active clinical assistantships for men desiring to specialize in these branches, and it will endeavor by regular examinations to determine the competence of specialists in obstetrics and gynecology who apply for the certificate. Certain outstanding specialists will be granted certificates on the basis of their attainments alone, but only by a vote of the entire Board after recommendation by the Committee on Requirements. A second group is asked to undergo a practical clinical examination, whereas a third and younger group has both written and clinical examination and must submit records of a group of cases in order to qualify."

For convenience of those to be examined nine districts are created and Nebraska applicants will be examined at Iowa City or St. Louis. The first examination will be given at each of the district centers, March 14.

PROCTOLOGIC HINT—NO. V

The presence of blood at anytime should never be disregarded. One should never wait until it occurs again before they investigate where it has come from. It is most frequently from fissures or hemmorrhoids, but occasionally there is a more serious lesion.

L. E. MOON, Omaha.

Dear Reader:

The Journal and the Cooperative Medical Advertising Bureau of Chicago maintain a Service Department to answer inquiries from you about pharmaceuticals, surgical instruments and other manufactured products, such as soaps, clothing, automobiles, etc., which you may need in your home, office, sanitarium or hospital.

We invite and urge you to use this Service.

It is absolutely free to you.

The Cooperative Bureau is equipped with catalogs and price lists of manufacturers, and can supply you information by return mail.

Perhaps you want a certain kind of instrument which is not advertised in the Journal, and do not know where to secure it; or do not know where to obtain some automobile supplies you need. This Service Bureau will give you the information.

Whenever possible, the goods will be advertised in our pages; but if they are not, we urge you to ask the Journal about them, or write direct to the Cooperative Medical Advertising Bureau, 535 N. Dearborn St., Chicago, Illinois.

We want the Journal to serve you.

EDITORIAL PARAGRAPHS

It is stated on authority that Nebraska is the sixth state in per capita wealth.

A case of acute lymphatic leukemia was reported from Lincoln recently, the child dying in about two weeks.

The next annual meeting of the Nebraska State Medical Association will be held at Omaha, May 12-14. Headquarters, Fontenelle Hotel.

Thirty-three deaths were recorded from the outbreak of psittacosis a year ago, out of a total of 169 reported cases of the disease.

No epidemic of yellow fever has occurred in the United States since 1905, which in a measure reflects the efficiency of the public health service.

The only two medical members of the present legislature are Representative Morrow of Seward and Senator Bowman of Alliance, so far as we know.

The Omaha health authorities are again urging universal immunization of school children against diphtheria, and offer to give toxin-antitoxin to all who apply for it.

Word comes from Vienna that tuberculosis with adhesions is being treated with a filling of paraffine which collapses the lung—a new thing and not so hazardous as thorocoplasty.

Up to the third week in January, when this magazine goes to press, there is no indication of any attempt at radical legislation affecting the medical profession or the public welfare.

The importance of undulant fever becomes more apparent as more is learned of the disease. Until a few years ago it was not thought to exist in the United States to any extent. During 1929, 975 cases were reported in this country.

Dr. Joseph J. Gerkins, late of Evanston, Ill., has assumed the duties of superintendent of the Nebraska Orthopedic hospital. Dr. Gerkins has a background of some years of public health service and other work of an executive character.

The secretary-editor of the *Kentucky Medical Journal* announced early in January that more than half of the membership paid dues the first ten days of January. Our Nebraska secretary would no doubt be glad to be able to make as good a report.

It is not generally known that the language most spoken is Arabic, which is closely followed by English. Russian, German, Chinese. Spanish, French, Italian. Philologists differ as to the number of living languages, estimates varying from 800 to 3000.

It is stated upon authority that a larger number of cases of small pox were reported in the United States during the year 1930 than were reported during preceding years—and this is the home of the brave and the land of the free.

The proposition came up before a luncheon club that a fund of about $100 be created for the purchase of serum or drugs for treating emergency cases, only members of families unable to pay for serums or drugs to be recipients. The idea is worth passing on to others.

A group of Chicago physicians is said to have organized a corporation known as the United Medical Service, intending to furnish all necessary medical service to the low income group within their ability to pay. Let us hope this will work out as well as it sounds.

A physician in this state is cited for having been city physician for thirty years, which is quite a record. It may be safely assumed that he had many an unpleasant official experience and has received scant thanks for his efforts, if personal experience counts for anything.

This editor will be very glad to have the fullest cooperation from the secretaries of the county societies. News notes and reports of meetings and abstracts of papers will be greatly appreciated. Do not be afraid to write. If the editor can get the facts, he will formulate them, if need be.

The reaction of the profession to the article published in the December, 1930, *Journal*, on Normet's Solution as an Emergency Substitute for Blood has been interesting. Many requests have come to the author, Dr. J. E. Summers, Omaha, for further information and for reprints of the article.

Plans are being made to organize a West Nebraska Medical Society to have a one day scientific meeting some time this fall. This editor would like to suggest that a joint meeting of the several councilor districts intended to be included would sound better and meet the needs just as fully. Multiplying medical societies is a vice.

An effort is being made to revive the Ambruster ergot episode. Ambruster, an importer of Spanish ergot, had charged that mouldy and rotten ergot was being used by manufacturing pharmacists. The Pure Drugs and Food Bureau decided adversely to his contentions some time ago, so he asks for an investigation of the bureau

The business manager says advertising is picking up for this *Journal.* New advertisers are The F. A. Davis Co., The S. M. A. Corporation, Hoffman-LaRoche Co., Eli Lilly Co., R. B. Davis Co., Hoboken, N. J.; Robinson Clinic; The Commercial Optical Co., Omaha; The Thomas Home, Omaha; The P. F. Petersen Baking Co., Omaha; McIntosh Stereopticon Co., Chicago; Nebraska Section, American College of Surgeons. Read the ads and patronize the advertisers.

A safe, but disagreeable, denaturant for industrial alcohol, known as alcotate will hereafter be used. People with a thirst will be interested to know that alcotate does not kill or blind, but has a taste and smell so disgusting as to discourage most appetites. It is derived through the production of gasoline in the cracking process. It is claimed that it cannot be removed by redistillation.

The first repercussion following the organization of an antivivisection society in Omaha recently is the order of the city council of Council Bluffs discontinuing the practice of selling dogs from the pound to a medical college in Omaha. The antis presented a petition of 3400 signers. It would be interesting to know how many of the petitioners wear furs taken from animals after extreme torture incurred in trapping.

From a report on Nurses we gather what most of us knew before, but what is here given with authority—that the typical private duty nurse works about eight months of the year, of which one month is given to charity service; that the average income throughout her career is $1,311. Public Health nurses begin at about $1,450 and gradually but slowly rise. Nurses, dear to the one who has to pay the bill, are, after all, rather poorly paid.

The following Lincoln physicians and surgeons, World War veterans, have been appointed consultants at the veteran's hospital at Lincoln, effective January first: Dr. David C. Hilton, Consultant in Surgery; Drs. Orr and Thomson, Consultants in Orthopedic Surgery; Dr. George W. Covey, Consultant in Internal Medicine and Pathology; Dr. J. J. Hompes, Consultant in Eye, Ear, Nose and Throat; Dr. B. F. Williams, Consultant in Nervous and Mental Diseases.

The University of Nebraska College of Medicine gave a testimonial dinner, January 10, to retiring Regent John R. Webster who leaves the board after 12 years of service. Much of the development of the College of Medicine was due to his efforts and forsight. Present were Chancellor Burnett, the newly organized Board of Regents, officers of the Nebraska State Medical Association and Mayor Metcalf and members of his official family.

The courts of this state have been called upon to decide what constitutes viability of a child, or life. A child was born dead to a widow a short time after the death of the husband who died intestate; but it is testified that the child was alive a short time before delivery. The parents of the deceased husband claim one-half of the estate, while on behalf of the widow it is claimed that the birth of the child, alive shortly before delivery, makes her the sole heir at law and bars the parents from the right of descent.

A recent communication from Dr. Claude P. Fordyce, formerly of Falls City and councilor of the Third District, who was called to A. M. A. headquarters last spring as assistant to Editor Fishbein of the *Journal A. M. A.*, states that he is now medical director of Merck and Co., at Rahway, N. J. The directorship entails work on all advertising and magazine material and Mercks' Manual. Doctor Fordyce enjoyed his work in Chicago immensely, but was induced for very enticing financial reasons to make the change.

The Holt county board of supervisors passed two unusual resolutions at a recent meeting. They are: "It is reported to the board that numerous parties are receiving county aid and are owning and driving automobiles. Therefore, be it resolved that the county shall not contribute aid to the support of any person who owns or manages an automobile." "Whereas, claims filed by physicians are so large and so many that they are becoming a burden to taxpayers, the county will pay for no more operations." The courts may be called upon to decide whether an automobile is not a necessary vehicle in these modern days and we are not so sure that the Holt county authorities would be upheld. To go on record as refusing pay for any more operations is absolutely asinine. County authorities are just awakening to their responsibility and they cannot shoo away the responsibility by passing resolutions.

"A Frontier Doctor" by Dr. Henry Hoyt, came as a Christmas present and was promptly read from beginning to end. It gives glimpses of a very colorful career. The author was born at St. Paul, Minn.; as a boy was with the International Boundary Survey; he experienced brushes with the Indians and froze through a blizzard; attended one term at Rush Medical; was attracted to Deadwood by the gold rush, lost out; went to New Mexico; engaged in practice; was a cow-boy; met "Billy the Kid" who presented him a pony; was mining prospector; gold mine part owner; went broke; took a job as bar tender, although he did not drink; became assistant postmaster at Santa Fe when the railhead touched there; found himself with three thousand dollars; completed his medical course; became chief surgeon for the Northern Pacific; entered the medical corps during the Spanish War, was sent to the Philippines, did field duty in the Aguinaldo campaign, was wounded, invalided home, recovered, returned to the Islands expecting to live there, but for good reasons returned to the United States and is now practicing in Long Beach. Some of us may think we have had colorful careers, but we could not make a light pink stain compared to Doctor Hoyt's career.

THIS MONTH IN MEDICAL HISTORY

February, 1931

Oliver Goldsmith was born in Ireland in 1731.* He attended the universities of Dublin, Edinburgh, and Leyden as a student of medicine. Upon leaving Leyden, however, he wandered for several years and returned to London penniless in 1758. His career as a writer began the following year. He died in 1774.

James Craik, family physician of George Washington, was born in Scotland in 1731. Prior to the Revolution he accompanied Washington on his expedition against the French and the Indians in 1754 and Braddock in his campaign in 1755. He died in Virginia in 1814.

John Berkenhout was born at Leeds in 1831 and received his medical degree at Leyden. He came to America with the British commissioners in 1778 and was awarded a pension upon his return to England.

Richard Lower, an English physician was born in Cornwall in 1631 (d. 1691). He was the teacher of Thomas Willis, celebrated anatomist and it is believed by some that Willis' fame rested to a certain extent upon unacknowledged work done by Lower.

Edward Jorden (1569-1632) an English physician obtained his medical degree at Padua. He practiced in London but lost his fortune in "attempts to manufacture allum". He removed to Bath where he published in 1631 a treatise on "Natural Baths and Mineral Waters".

That the Women's Auxiliary is not new is indicated by the fact that the Barber Surgeon's of London provided in February 1, 1731, that "For the Ladys Feast it is ordered that every member of the court shall besides his Lady and one daughter have three tickets to be delivered to such persons as they shall think fitt to be admitted to come and dance at the Hall at five of the clock." In July, 1736, it is recorded that 56 gallons of wine were drunk at the Ladies' Feast.

On February 27, 1663, Samuel Pepys had dinner with the Barber Surgeons in Chyrurgeons Hall. Preceding the dinner there was an anatomy lecture in the Theatre by Christopher Terne of Leyden originally of Cambridge and Fellow of the College of Physicians. "We had a fine dinner and good learned company. Many Doctors of Physique, and we used with extraordinary great respect."

Chloroform was discovered in 1831 independently by Souberain in Paris and by Samuel Guthrie at Jewettsville, N. Y. Guthrie produced his chloroform by the modern method of distilling alcohol with chlorinated lime.

NECROLOGY

Frank Salter Nicholson, St. Paul, Nebr.; native of Hamilton, Ont.; Trinity Medical College, Toronto, 1894; practitioner at Dannebrog and Cairo, before locating at St. Paul, Nebr., in 1897; an active member, Nebraska State Medical Association for the past thirty years; a man who spent an active and useful life, having served his home city as mayor for several terms and for a number of years a member of the board of education; medical officer, Nebraska National Guard, for a number of years during which time he attended Army Medical School at Washington and in 1916 served on the Mexican Border with the rank of major; sometime assistant physician Norfolk State Hospital; in failing health for over a year during which time (December, 1929) an exploratory operation disclosed inoperable carcinoma of the stomach, following which he spent the winter in California and received the Coffey-Humber treatment; died December 10, 1930, aged fifty-eight years. He leaves a widow, a son and a daughter. Dr. P. H. Salter, Norfolk, is a cousin of the deceased.

Frank N. Townley, Kenesaw, Nebr.; Lincoln Medical College, 1910; member, Nebraska State Medical Association; in medical corps, during the World War; in practice at Kenesaw for twenty years; a man well liked in his community; died of pneumonia in a Hastings hospital after an illness of 3 weeks, aged about forty-eight years. He leaves a widow and two sons.

George L. Blanchard, Los Angeles; Creighton Medical College, 1902; oto-laryngologist in Los Angeles since 1919; during his earlier career assistant for a time at the Gifford clinic and with Dr. D. C. Bryant, Omaha, and also associated with the latter in Los Angeles; a quiet but forceful man in his professional life; died August 2, 1930, aged about fifty-four years.

William McIntyre, Lincoln, Nebr., retired; Drake University College of Medicine, date not at hand; practitioner first at Papilion, later at Unadilla where he served a large community for many years; for the last 16 years in retirement in Lincoln; died January 1, 1931, aged eight-four years.

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*Some authorities say 1728.

FIFTEENTH ANNUAL CLINICAL SESSION OF THE AMERICAN COLLEGE OF PHYSICIANS

The Fifteenth Annual Clinical Session of the American College of Physicians will convene in Baltimore, Maryland, March 23-27, and in Washington, D. C., March 28, 1931. The organization holds this session in Baltimore through the cordial invitation of the Johns Hopkins University School of Medicine, the University of Maryland School of Medicine, the Medical and Chirurgical Faculty of the State of Maryland, the Baltimore City Medical Society, and the further cooperative interest manifested by the various Baltimore hospitals and civic societies. Held in important medical centers, these Clinical Sessions constitute, perhaps, the most important postgraduate week in Internal Medicine each year. Those who attend the meeting will find ample in the way of clinical, laboratory, research and historical interest, well to repay them for the time spent in making the journey. Dr. Sydney R. Miller, of Baltimore, President of the American College of Physicians, has prepared the program for the General Scientific Sessions, while Dr. Maurice C. Pincoffs, General Chairman, also of Baltimore, has arranged the program of clinics, demonstrations, entertainment, etc.

As an added feature of the Clinical Session this year, an additional day, March 28, will be spent in Washington, D. C., where a special program of clinics and inspection tours has been arranged under the auspices of the Medical Departments of the U. S. Army, U. S. Navy, U. S. Public Health Service and Georgetown University. Dr. William Gerry Morgan is acting as Chairman of the Washington Committee, and is being assisted by Admiral Charles E. Riggs, Surgeon General of the Navy; General Merritte W. Ireland, Surgeon General of the Army; General Hugh S. Cuming, Surgeon General of the U. S. Public Health Service; Dr. William A. White, Director of the Government Hospital for the Insane; Dr. John A. Foote, Dean of the Medical Department of Georgetown University; Dr. Ales Hrdlicka, Director of the Department of Zoology of the National Museum; Dr. Roy Adams, Chief of the Medical Service at Mt. Alto Veterans' Hospital; Dr. W. H. Hough, President of the Medical Society of the District of Columbia; Dr. C. B. Conklin, Secretary of the Medical Society of the District of Columbia; Dr. George W. McCoy, Director of the U. S. Hygienic Laboratory; and Colonel Charles R. Reynolds, Commandant of the U. S. Army Field Hospital School of Carlisle Barracks.

The entire program of the Clinical Session is characterized by new subjects, new authors and wide geographic representation. It is significant that the committees have attempted carefully to avoid repetition of subjects and authors, as has so often been the case in previous years, not only on the program of the American College of Physicians, but on the program of a great many medical organizations. On the General Scientific Programs there will be forty-five or fifty selected formal papers. Symposia on blood diseases, oxygen therapy, diseases of the liver, recent advances in endocrinology with particular reference to the newer work on supra-renal extracts, myocarditis, and several other subjects have been arranged. At Baltimore's many modern and excellently operated hospitals, clinics, ward-walks, laboratory demonstrations and the like will be held. Johns Hopkins Hospital and Medical School, under Dr. Alan M. Chesney, Dean, and a specially appointed Committee, will place at the disposal of the College all of its facilities and offer a program of great interest. Additional hospitals, such as the Union Memorial Hospital, St. Agnes Hospital, at which Dr. Joseph C. Bloodgood does so much of his work, the Municipal Hospitals, and several of the more private institutions, such as the Howard A. Kelly Hospital, noted particularly for its radium activities, and the Sheppard and Enoch Pratt Hospital, which is one of the most modern dealing with psychiatric problems, and many others will provide programs of clinics.

Hotel headquarters will be at the Lord Baltimore Hotel, while general headquarters, at which the registration of members, commercial exhibits and all general sessions will be held, will be The Alcazar, Cathedral and Madison Streets, Baltimore. Transportation on the Certificate Plan of reduced fares will be available to all physicians and dependent members of their family from all parts of the United States and Canada. A special program of entertainment has been arranged for visiting ladies. The convocation for the induction of new members, as Masters or Fellows, will be held on Wednesday evening, March 25, and the Annual Banquet will be held on Thursday evening, March 26. The Business Meeting, at which reports of administration and elections for the new year will take place, will be held during the forenoon of Thursday, March 26.

Mr. E. R. Loveland, 133-135 S. 36th Street, Philadelphia, is the Executive Secretary of the College, and it is to him that requests for further information or programs should be addressed.

AUXILIARY NOTES

The Women's Auxiliary to the Five County Medical Society met at the Hotel Norfolk, Tuesday evening, December 18th, 1930. This was the annual meeting of both the Medical Society and the Auxiliary and is made the social event of the year. The following officers of the Auxiliary were elected for the year:

Mrs. H. S. Tennant, of Stanton—President.
Mrs. George H. Hansen, of Madison—Sec. and Treas.
Mrs. B. R. Farner, of Norfolk, Hygia Chairman.

Dawson County Auxiliary has a superior asset in seven professional nurses. Mrs. W. J. Birkofer, of Gothenburg, writes that these nurses are the top notch of culture and are keen for everything scientific that comes to them through lectures given by imported authority. A lecture on "Diabetes" by Dr. Adolph Sachs, Omaha, was of great interest to them all. The officers of Dawson County Auxiliary are:

Mrs. H. M. Harvey, of Gothenburg—President.
Mrs. A. E. Reaves, of Farnam—Secretary.

Mrs. Ray Wycoff, retiring president, gave a brief summary of the past year's work along lines of "Prevention." The most outstanding accomplishment in public welfare with which the Auxiliary has been connected is the successful inoculation against diphtheria of 400 school children at Lexington. This was the result of cooperation and combined efforts of the various civic clubs, the school board providing the anti-toxin used in immunization.

The Auxiliary unanimously endorsed the movement now under way to secure a regular full time county welfare worker. This would provide a visiting nurse (professional) for public schools of the county, and organize the work of county relief, nursing and purchasing supplies with county funds at much less expense than is now borne by the county through the allowances made by the county commissioners.

Mrs. H. M. Harvey, the newly elected president for 1931, addressed the society, outlining the work for the coming year. "Education in prevention" immunization against small pox and diphtheria, and organizing for a concerted, popular voice for county nurse. Lexington, Farnam and Gothenburg were represented at the Auxiliary meeting.

At the Omaha University Club on Monday, at 1 o'clock, January 12th, was held the Executive Meeting of the Woman's Auxiliary to the Nebraska State Medical Association. Those in attendance were the officers, Mrs. E. W. Rowe, Mrs. B. F. Williams, of

Lincoln; Mrs. Clyde Roeder, of Omaha; Mrs. Homer Davis, of Genoa; Mrs. Morris Nielsen of Blair. Directors—Mrs. F. A. Long of Madison, Mrs. J. M. Mayhew of Lincoln; Historian—Mrs. C. A. Rubendall of Omaha; Parliamentarian—Mrs. George Neuhaus, of Omaha; Revisions Chairman—Mrs. C. C. Tomlinson, Omaha; Publicity Chairman—Mrs. F. L. Rogers, Lincoln; National Auxiliary Editor—Mrs. Roy Whitham, Lincoln. Attending—Mrs. E. G. Moore of Fremont; Mrs. C. A. Selby of North Platte; Mrs. H. C. Miller and Mrs. A. P. Overgaard of Omaha. By this group the following organizations were represented: Five County Organization—Madison, Stanton, Antelope, Pierce, Knox Counties; Douglas; Dodge; Nance; Keith; Perkins; Lincoln; Lancaster.

The meeting was called to order by the president, Mrs. E. W. Rowe.

Minutes read by Mrs. B. F. Williams, and also letters from absent members of the board. Mrs. G. B. Dent, of North Platte, wrote that the North Platte Auxiliary was planning a bridge-benefit in February to help equip the nursery of the new Community Hospital in North Platte. Mrs. F. L. Wilson, of Stuart, wrote that she could not be present because a son was born December 24th, 1930, and needed her care. They have named him Terrance Stuart Wilson. Mrs. Lucien Stark could not be present on account of illness. Reports from the various chairmen of committees were given and committees were appointed to prepare for the Annual Meeting of the State Medical Association in the spring. Members of this committee—Mrs. Miller, Mrs. Stokes, Mrs. Dishong, of Omaha; Mrs. Gilligan of Nebraska City; Mrs. Rowe and Mrs. Williams of Lincoln. Nominating Committee members—Mrs. Cook of Randolph; Mrs. Tomlinson and Mrs. Overgaard of Omaha; Mrs. Teal of Lincoln; and Mrs. Hansen of Madison.

The State Officers of the Auxiliary met with the Advisory Board of the State Medical Association at the Lincoln University Club, January 10th, 1931. The purpose of the meeting was to gain advice concerning the program of the year and the promise of the support of the Medical Association along the lines suggested. The "Health Unit" and other subjects were discussed and it was finally agreed upon to accept the subject of "Communicable Disease" for the study of the year. In attendance were—Drs. Bailey, Adams, Hohlen and Meredith; Mrs. Rowe, Mrs. Williams, and Mrs. Whitham.

Mrs. Clyde Roeder, as Chairman of the Organization Committee, in writing wives of the presidents of the Medical Association out over the state, in view of organizing new auxiliaries, gives the following reasons for organization:

"The work of an auxiliary can be what you choose it to be, and if it is only to promote good will in the families of the doctors, it would be worth while. There are, however, so many more really very important reasons for the auxiliary in this day of changes in medicine. Cooperation is essential for the proper guidance of health activities in which a doctor's family must play an active part. This entire movement, of course, is sponsored by the American Medical Association and the dues, twenty-five cents a year to the National Organization and seventy-five cents a year to the State, help carry on the health work as suggested by the National Auxiliary but is applicable to your local district. There need be no dues to the county unless you find taxation necessary to carry on your work.

"Health education is an important phase of the national program, and this includes prevention of contagious diseases—vaccination and other preventive measures. It is, also, advisable that the county pay for a county nurse, where there is none, to cooperate with the doctors on the health problems of the county. An organization in your county would stand for the principles of better health, better cooperation and a better understanding of the objective towards which the Medical Society and its Auxiliary are working."

The Auxiliary to the Douglas County Medical Society elected officers as follows, December 11, at a meeting at the Fontenelle hotel: Mrs. Harry C. Miller, president; Mrs. Floyd Clarke, vice president; Mrs. Francis Heagey, secretary-treasurer. Mrs. E. W. Rowe, Lincoln, state president, spoke on the aims of the auxiliary.

After a dinner with the members of the Dodge County Medical Society, December 23, the women of the Auxiliary, meeting separately, elected Mrs. C. G. Moore, president; Mrs. R. T. Van Metre, vice president; Mrs. H. N. Morrow, secretary-treasurer.

Have you read the article by Mrs. Freeman of Philadelphia in the Bulletin of the American Medical Association, on the work of the Auxiliary? If not, have your husband bring you the copy from the office.

—H. C. R.

THE SOCIETIES

The regular meeting of the **Omaha-Douglas County Medical Society,** December 9, 1930, was called to order by Dr. C. W. Pollard, president.

Dr. G. Alexander Young read the first paper on the scientific program, "Experiences in Recent Cases of Poliomyelitis With Convalescent Serum," which was discussed by Drs. Clarke and Bennett.

Dr. George Neuhaus presented a "Case of Narcolepsy" and had his patient present.

Dr. Franklin Ebaugh of Denver, guest speaker of the evening, then addressed the society on "Encephalography."

Dr. Pollard announced the result of the annual election, as follows: Dr. A. S. Pinto, president; Dr. B. M. Riley, president-elect; Dr. Herman Jahr, secretary-treasurer; Dr. R. A. Moser, Dr. Warren Thompson, council members; Dr. R. W. Fouts, Dr. Ernest Kelley, Dr. E. A. Connolly, delegates to state convention.

—The Bulletin.

At the annual meeting of the **Lancaster County Medical Society,** December 16, 1930, the following officers were elected:

President—Dr. S. E. Cook.
Vice-president—Dr. F. A. Graham.
Secretary—Dr. Roy H. Whitham.
Treasurer—Dr. Clayton F. Andrews.
Censor—Dr. R. O. Hummel.
Historian—Dr. A. R. Mitchell.
Trustee—Dr. J. J. Hompes.

Delegates to the State Convention: Dr. George W. Covey—Alternate, Dr. J. J. Hompes; Dr. H. E. Flansburg—Alternate, Dr. A. D. Munger.

—Lancaster County Bulletin.

The regular meeting of the **Lancaster County Medical Society** was held December 2, 1930, Dr. George H. Walker, presiding.

The first paper of the evening was read by Dr. F. L. Rogers on "Rheumatic Fever." He stated that in 401 post-mortems done in this city there were twenty-one cases of rheumatic heart disease and seven additional cases probably had rheumatic heart disease. Of the twenty-one cases seven showed widespread evidence of rheumatic fever. Concerning the etiology, he spoke of the general effects of living conditions and of the increased incidence in the spring of the year. Heredity plays a doubtful part. It has long been thought to be associated with tonsilitis. It is well established that rheumatic fever is not a usual pyogenic infection and considerable debate hinges around the question of a specific organism producing the disease. Recently it has been considered partly an allergic phenomenon. Dr. Rogers presented the different sides of the argument regarding the relationship of tonsillectomy to the prevention of the disease and to the progress of the disease. The opinion is rather general that tonsillectomy does something toward preventing its occurrence, but many authorities question its usefulness after the disease had once been established. In conclusion he stated that care should be used in giving an opinion on the value of tonsillectomy once rheumatic fever has occurred. The discussion of the paper was opened by Dr. Wegner and continued by Drs. Andrews, Hompes, Reinhard, Covey, Bowman and Rogers.

The second paper of the evening on "Impressions on Social Medicine in Europe," was read by Dr. H. H. Waite. As a delegate of the American Public Health Association, Dr. Waite visited a number of European countries during the last summer and gathered some interesting data on the status of Social Medicine in those countries. Speaking first of England, he described briefly the Panel-system and cited the opinion of certain Englishmen interested in the subject, most of which was favorable to the system. He spoke of a similar system existing in Denmark and described in some detail the public health and educational activities in Dresden (Germany), Switzerland and France. The German and Austrian social system of medicine are on a more completely social basis than any other countries, and under them the physician receives an inadequate compensation and has relatively little chance for advancement. The paper was variously discussed by Drs. Adams, Brooks, Hohlen, Arnholt, John Thompson and Waite. The general feeling was not in favor of application of social medicine in this country.

The **Seward County Medical Society** met at Beaver Crossing, December 18, the dinner guests of Dr. C. W. Doty.

Dr. William Sandusky, Seward, was elected president; Dr. Lloyd Ragan, Seward, secretary-treasurer; Dr. C. W. Doty, Beaver Crossing, delegate.

A round table discussion of various matters of interest to the profession completed the session and adjournment occurred amid many pleasant Yuletide greetings to one another.

The **Dodge County Medical Society** held a meeting over a dinner at the Pathfinder, December 22. After dinner the Woman's Auxiliary gave each of those present a simple but appropriate gift.

Dr. A. E. Stuart, Cedar Bluff, was elected president; Dr. A. O. Fasser, Fremont, vice president; Dr. J. S. Devries, Fremont, secretary-treasurer (reelected); Dr. R. A. Davies, Arlington, delegate.

Dr. Bloch gave two interesting case reports.

At the annual meeting of the **Burt County Medical Society,** held at Oakland, Dr. W. C. Keetel, Lyons, was elected prtsident; Dr. S. A. Swenson, Oakland, secretary-treasurer. A dinner was enjoyed and a roundtable discussion on public health completed the program.

The **Northwest Nebraska County Medical Society** met at the Chadron hospital, December 17, 1930.

Dr. A. J. Courshon, Chadron, gave a talk on "Rupture", describing the newer technique which adds to the success of the operation. Dr. F. C. Baldwin, Chadron, talked on "Neuropsychiatry."

The annual meeting of the **Saline County Medical Society** resulted in the election of the following: President, Henry Hein, Wilbur; vice president, Dr. A. C. Blattspieler, Tobias; secretary, Dr. R. C. Kirschman, Wilbur; delegate, Dr. R. K. Johnson, Friend.

The annual meeting of the **Madison Five Counties Medical Society** was held at Norfolk, December 17. Forty-six physicians and ladies attended the dinner. Officers were elected as follows: Dr. H. S. Tennant, Stanton, president; Dr. P. B. Lonergan, Bloomfield, vice president; Dr. R. B. Frary, Stanton, secretary-treasurer (reelected); Dr. G. E. Charlton, Norfolk, delegate.

A dance completed the evening's entertainment.

Friday evening, January 2nd, the **Dawson County Medical Association** celebrated its 28th birthday anniversary with a banquet at the Smith Cafe, the ladies of the Medical Auxiliary being guests of the doctors.

The banquet dinner was an exceptional spread, built around short steaks of Canadian moose. This was contributed by Dr. A. E. Reeves of Farnam, trophy of his recent "dangle" through the Canadian forests. Through the efforts of the Smith chef, a special "moose roast" menu just as the Canadians serve it, and lacking nothing of that rare French touch, included hashed browned potatoes, steamed sweet potatoes, cranberry and cabbage relish, piquant fruit salad, rich buttered browned steaks served with sliced onion, coffee and apple pie—the likes of which no Frenchman ever turned out. At the finish of the dinner, Dr. Reeves gave a brief sketch of the trip up through the moose country, and graphically and with dramatic first hand knowledge, he keyed the interest to high pitch—and wonder, for this "wonderland", lying so close to us, where the day ends at 4 p. m., where "the light of the bright world dies with the dying sun", and then the solitude of snow, majestic pines and firs, blackness and shadows that can only be felt, not seen. And all this, back to the primitive, at such a surprisingly low cost of money and time.

Officers elected for the current year are: Dr. O. P. Rosenau, Eustis, president; Dr. Ray Wycoff, Lexington, vice president; Dr. B. W. Pyle, Gothenburg, secretary-treasurer; Dr. A. E. Reeves, Farnam, delegate.

—Mrs. W. J. Birkoger.

The **Cheyenne-Kimball County Medical Society** met at Kimball, January 5.

The following officers were elected: Dr. Dee L. Abbott, Sidney, president; Dr. J. H. Taylor, Sidney, vice president; Dr. J. H. Pankau, Dalton, secretary-treasurer (reelected); Dr. F. P. Sucgang, Bushnell, delegate.

A very lucid and instructive motion picture on "Traumatic Surgery of the Extremities" was presented by Dr. A. L. Miller, Kimball. The fee bill was discussed and all were urged to abide by it for the good of all and for the cohesive effect on the profession.

Guests were present from Scottsbluff, Gering, Big Springs and Bayard.

—J. B. Pankau, Sec.

HUMAN INTEREST TALES

Dr. A. L. Kee, Cambridge, is reported ill from antrum disease.

A hospital known as The Memorial has been opened at Dalton.

Dr. and Mrs. W. H. Taylor, Omaha, visited Cuba the first of the year.

Dr. Jennie Callfas, Omaha, recently underwent a gallbladder operation.

Dr. and Mrs. J. V. Beghtol, Hastings, are spending the winter at San Antonio.

Dr. J. W. Duncan has been named chief surgeon of the Douglas County hospital.

Dr. A. S. Main, Loup City, has about recovered from a severe attack of pneumonia.

Dr. Earle C. Baldwin has located at Chadron and will specialize in neuropsychiatry.

Dr. and Mrs. A. L. Ambrose, Guide Rock, are spending the winter in Long Beach, Calif.

Dr. H. S. Andrews, Minden, spoke recently before the local Rotarians, on "Your Health".

Dr. and Mrs. Walter P. Ulmer, missionaries in China, are visiting relatives at Dawson.

Dr. D. L. Hibberd has located in Elm Creek and will be associated with Dr. Chas. A. Yoder.

Dr. A. G. Rasch, Ainsworth, submitted to an appendectomy in an Omaha hospital, recently.

Dr. C. H. Arnold has become president of the Lincoln chapter of the Inter-professional institute.

Dr. L. N. Smernoff, Omaha, was attacked in his home, beaten and robbed, just before the holidays.

The supreme court affirmed a judgment for $25,000 for malpractice against Dr. R. R. Marble, Omaha physician.

Dr. R. H. Burrell, Creighton, was assaulted and badly beaten by an unknown young man armed with a pistol.

It is reported that Dr. C. D. Hustead, Aurora, suffered an apoplectic attack, recently, but is convalescing nicely.

Dr. J. P. Weyrens, Scottsbluff, is giving travelogues over the radio, featuring observations of a trip around the world.

Dr. Charles Giltner, formerly of Hastings, has located at Kenesaw in succession to Dr. F. N. Townley, recently deceased.

Dr. Dennis Neville, Hildreth,. was forced into the ditch by a careless driver, wrecked his car, but luckily escaped serious injury.

Dr. Donald J. Wilson, after doing postgraduate work in New York city in dermatology and syphilology, has located in Omaha.

The friends of Dr. J. C. Malster, Stromsburg, will regret to learn that he lost his wife lately. He is left with three growing daughters.

Dr. W. H. Slattery, Lincoln, was attacked by two thugs one night recently, while making a call, but escaped with a laceration of the face.

Dr. W. J. McCran, pioneer South Omaha physician, seventy-six years of age, suffered a broken hip in December when he slipped on a rug.

A personal communication from Dr. A. M. Sonneland, for the past six months in Vienna, indicates he will return to this country in February.

Dr. E. Lennemann, for about a year located at Tecumseh, has moved to Dawson in succession to Dr. C. E. Leisure, who goes to the Mayo clinic.

Dr. Kendall Emerson, managing director of the National Tuberculosis association, was a guest of the officers of The Nebraska Tuberculosis association, Omaha, early in January.

Dr. Chas. R. Magruder, recently from the veteran's hospital, Boise, and Dr. Grover C. Kirk, from the veteran's hospital, Legion, Texas, have been added to the staff of the veteran's hospital, Lincoln.

Dr. Olga Stastny, Omaha, spoke before the Y. W. C. A., on the "Health of the Business Woman", and before the woman's division of the Chamber of Commerce on "The History and Customs of Bohemia", last month.

BOOKS RECEIVED

MENTAL ASPECTS OF STAMMERING by C. S. Bluemel, M. A., M. D., L. R. C. P. (Lond). M. R. C. S. (Eng.) Clinical Instructor in Neurology at the University of Colorado School of Medicine. Neurologist on the attending staffs of the Children's Hospital, The Denver Orphans' Home, and St. Luke's Hospital, Denver. 152 pages, 8 mo., cloth cover. Published 1930 by the Williams & Wilkins Co., Baltimore. Price $2.50.

A MANUAL OF NORMAL PHYSICAL SIGNS by Wyndham B. Blanton, B. A., M. A., M. D., Richmond, Virginia. Second Edition, 9 mo., 246 pages. Published 1930 by The C. V. Mosby Co., St. Louis. Price $3.00.

TREATMENT OF EPILEPSY by Fritz B. Talbot, M. D., Clinical Professor of Pediatrics, Harvard University Medical School. 10 mo., 308 pages. Published by the Macmillan Company, 1930. Price $4.00.

MEDICAL AND SURGICAL REPORTS OF THE EPISCOPAL HOSPITAL, Volume VI, commemorating the Seventy-fifth Year of the Hospital. 6 mo., 460 pages. Published 1930 by the Press of Wm. J. Dornan, Philadelphia.

OPERATIVE GYNECOLOGY by Harry Sturgeon Crossen, M. D., F. A. C. S., and Robert James Crossen, M. D., Fourth Edition with twelve hundred forty-six illustrations and two color plates. 16 mo., 1078 pages. Published 1930 by The C. V. Mosby Co., St. Louis. Price $15.00.

PHYSICAL DIAGNOSIS by Warren P. Elmer, B. S., M. D., and W. D. Rose, M. D. 9 mo., 903 pages with three hundred thirty-seven illustrations. Published 1930 by the C. V. Mosby Company, St. Louis. Price $10.00.

ASTHMA DUE TO MOLD—ASPERGILLUS FUMIGATUS

In a woman who had been a victim of asthma for nine years, cutaneous tests with representative plant pollens, food proteins, epidermal proteins and a stock house dust extract were repeatedly negative. The first attack of asthma occurred after she had lived four years in a damp and musty brick house. A preparation of *Aspergillus fumigatus* was one of thirteen mold reagents to yield a strongly positive cutaneous and intracutaneous reaction. An extract of *Aspergillus fumigatus* in a dilution of 1:5,000, administered subcutaneously, gave rise to a marked local reaction and provoked the asthmatic state. In a series of 125 patients reported by Harry S. Bernton, Washington, D. C. (*Journal A. M. A.*, July 19, 1930), this patient was the only one to react positively to mold reagents. This incidence is 0.8 per cent. Physical and radiographic examinations of the patient were negative. *Aspergillus fumigatus* is a regular inhabitant of the soil and may be found in a dirt contaminated environment. Regional mold surveys may assume an importance in the control of asthma equal to that of botanic surveys in hay-fever. Especially is this true of the grain and fruit producing sections of our country. A wider application of this newer study, initiated in 1923, will indicate to what extent the molds are causative factors of asthma in the United States.

FOLLOW UP

"I'm going to follow the medical profession."

"Doctor, eh?"

"No, undertaker."

RESULTS IN TONSILLECTOMY

Considering all the data from a ten year follow-up study of tonsillectomized children, Albert D. Kaiser, Rochester, N. Y. (*Journal A. M. A.*, Sept. 20, 1930), concludes that: The real value of the removal of tonsils and adenoids cannot be definitely established in a few years. Apparent benefits during the first few postoperative years are not so evident over a ten year period. Outstanding benefits are apparent in influencing the incidence of sore throats over a ten year period. Substantial benefits are apparent in rendering children less susceptible to scarlet fever and diphtheria. Acute head colds and otitis media, though definitely lessened over a three year period, are not essentially influenced over a ten year follow-up period. Cervical adenitis is decidedly reduced in tonsillectomized children over a ten year period. The respiratory infections, such as laryngitis, bronchitis and pneumonia, not only are not benefited but actually occur more frequently in tonsillectomized children. First attacks of rheumatic manifestations occur from 30 to 50 per cent less often in tonsillectomized children. The greatest reduction occurs in children tonsillectomized early. Recurrent attacks are not benefited at all. Incomplete tonsillectomies do not offer the same protection against the usual throat complaints and infections as complete removal of tonsils. The hazards of tonsillectomy must be considered in evaluating the end-results. Considering this hazard, the late results seen in 2,200 children ten years after operation are evident only in the reduction of sore throat, cervical adenitis, otitis media, scarlet fever, diphtheria and rheumatic fever and heart disease.

CHEMIST'S BEDTIME STORY

Vitamin A
Keeps the cold germs away
And tends to make meek people nervy;
B's what you need
When you're going to seed
And C is specific in scurvy.

Vitamin D
Makes the bones in your knee
Tough and hard for the service on Sunday,
While E makes hens scratch
And increases the hatch
And brings in more profits on Monday.

Vitamin F
Never bothers the chef
For this vitamin never existed.
G puts the fight
In the old appetite
And you eat all the foods that are listed.

So now when you dine
Remember these lines:
If long on this globe you will tarry,
Just try to be good
And pick out more food
From the orchard, the garden, and dairy.

—R. Adams Dutcher in Engineering Chemistry.

ROSTER OF OFFICERS—1931

K. S. J. Hohlen, Lincoln, President	1931
Lucien Stark, Norfolk, President-elect	1932
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WHY IS THE MORTALITY OF APPENDICITIS INCREASING?*

BYRON B. DAVIS, M. D., F. A. C. S.,
Omaha, Nebr.

(IN TWO PARTS—SECOND PART)

The diagnosis in the more typical cases is not difficult but sometimes the symptoms are so confusing that serious diagnostic difficulties are met. Sometimes a prompt and correct diagnosis is impossible. Among children, especially, a gastro-intestinal upset with an acute intestinal infection frequently marks the onset of appendicitis and the symptoms are so masked that a correct diagnosis is often excusably delayed. I shall not discuss the question whether the gastro-intestinal upset is the cause or result of the appendicitis. The best means of avoiding diagnostic error is to keep in mind the fact that appendiceal infections frequently complicate infections of the gastro-intestinal tract.

The frequency with which thoracic disease produces abdominal symptoms, especially in children, has been discussed so often that I am sure few men would now make a diagnosis of appendicitis when the pathology is in the thoracic cavity. The most striking errors in cases of this type I have recently encountered have been those with thoracic pathology plus a definite appendicitis, where the attending physician has recognized the pathology above the diaphragm and overlooked for a time the appendicitis. It was very natural that the abdominal symptoms should be misinterpreted as due entirely to the lesion in the thorax. These cases are difficult and I take off my hat to those who recognize them promptly and do not feel censorious towards the man who fails to make the complete diagnosis. Being conversant with the possibility of thoracic pathology and appendicitis being coexistent is an important safeguard against error.

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*Read before annual meeting. Nebraska State Medical Association, Lincoln, May 13, 1930.

Appendicitis in elderly people is rare but may occur at any time of life. Its rareness is a partial alibi for occasional diagnostic error. Since no age is immune appendicitis should be considered in all cases of abdominal distress among elderly people. In the aged the reaction to pain is less acute than in the young. The early reflex epigastric pain and vomiting are less typical. They are likely to attribute abdominal pain to constipation and are less inclined to have a doctor called than those in middle life or younger. Here, when a doctor is called, he is apt to be thrown off the track, suspecting colitis, constipation or carcinoma instead of the true condition. The existance of fever and leucocytosis with more or less tenderness and rigidity in the right lower quadrant will help one to avoid falling into diagnostic error. The mortality of appendicitis in people past sixty is given in several hospitals as high as 50 per cent.

The retro-caecal appendix is another stumbling block. When in this position the symptoms are atypical and less severe in the early stage and are not rarely explained as nephritic in origin or due to a loaded caecum. Tenderness and rigidity at the McBurney point are often absent. Tenderness behind is often attributed to stone in the kidney or ureter and the appendix is given scanty consideration. The fever and leucocytosis and absence of definite urinary findings should help materially in arriving at a correct diagnosis.

When the appendix is situated in the pelvis it presents another diagnostic problem. In the female it is apt to be interpreted as a tubal trouble. in the male the prostate is considered. In such cases a vaginal or a rectal examination is most enlightening. If the right tube is sufficiently infected to lead to calling a doctor, a tubal mass will be found, tender and of the typical shape and relation to the uterus. If the prostate is causing the symptoms it will be enlarged and tender and definitely limited to the gland. If no such masses are felt and tenderness is elicited it speaks strongly for appendicitis. But if the case has progressed and perforation of the appendix has led to the formation of an abscess in the pelvis, it becomes very difficult to differentiate between an appendiceal abscess and an abscess of tubal origin. In such a contingency the history may be the deciding point. If finally in doubt I believe operation should be done, for it is better to operate on an acute salpingitis than to fail to operate on an acute appendicitis.

Summing up the case against the physician first called, the following points may with justice be made: He is often handicapped by not being called until the infection has passed beyond the simple stage. In most cases he makes his diagnosis promptly and advises immediate operation. Occasionally, I regret to say, he is not duly awake to the danger of delay in operating for acute appendicitis, and temporizes. Such an attitude is much more to be condemned in the medical man than delay by the patient, for it is the business of the doctor to know that "to delay operation in acute appendicitis is to gamble with death." The only excuse there could be in delay would be the feeling which seems to have come over some members of the profession that the last word has been said about appendicitis, that it is an old story, familiarity has bred contempt and that appendicitis is not a disease to worry about. But the mortality goes on increasing.

It is difficult to criticize some members of a class without having those not open to criticism getting a feeling that they are intended. It is my opinion that a very large proportion of doctors are "batting" 100 per cent in alertness, promptness in making a diagnosis, and energy in bringing about an early operation. I am equally positive that a considerable number of members of the medical profession have fallen upon evil times, are failing to appreciate the need of prompt work in acute appendicitis and are permitting lives to be needlessly sacrificed because of failure to realize their responsibilities. After all the number of patients lost as the result of mistaken ideas regarding the danger of delay is small when compared to the total death rate from appendicitis, and I am convinced the onus falls more lightly on the medical attendant than on the patient and the surgeon.

The third person against whom our indictment is directed in this analysis is the operating surgeon. An attempt to dodge the issue by making the plea that the cases do not get into our hands until too far advanced is unsportsmanlike unless we can prove that our own conduct is above criticism. It is conceded that we are now getting a higher percentage of late complicated cases than formerly. This being the case, can we, as a class, honestly hold ourselves blameless that such a state of affairs has arisen? It is obvious that the surgeons of America, because of their daily opportunity to study the living pathology of the appendix in all its stages, are in better position than anyone else, to carry to the public a campaign of education calculated to prevent the delay in operation which is undoubtedly the principal reason for the present high death rate. The lay public and the medical men of the nation were once on their toes, bringing the victim of appendicitis to the operating table as early as possible. That this mass psychology has been permitted to lapse is due to the lukewarmness of the surgeons. To plead that failure to keep the subject of appendicitis before the public has been unintentional on our part does not mitigate the situation which confronts us. It is true that during the past years much progress has been made in the treatment of the gallbladder, the thyroid gland and many other organs; but while learning more about the pathology, diagnosis and treatment of the thyroid it is not logical that we should lose touch with the pathology, diagnosis and treatment of the appendix vermiformis.

At the risk of making this discussion unduly long I cannot refrain from a brief consideration of the surgeon's responsibility in the management of acute appendicitis when cases come into his hands. Our responsibility to the concrete case does not begin until we are called. From that time on we have no alibi.

All are agreed that every simple case of acute appendicitis should be operated as soon as received into the hospital. The management of the advanced complicated case, unfortunately, has become a question for argument. The most acutely controversial point in the whole discussion is whether to operate on the more advanced cases at once or to delay and use the Ochsner treatment. It is most unfortunate for the sufferers from appendicitis that such a controversy has arisen. The advocates of the Ochsner method have been the cause of much delay under the mistaken notion that all cases, early and late, are amenable to this treatment. It is my candid opinion that the Ochsner treatment, however excellent it may be academically, has caused the loss of more lives than it has saved.

Ashhurst, who is a conservative man of great experience, presents the case well. He reports 247 complicated cases, those with gangrene, perforation and peritonitis. Of these 210 were operated immediately with 10 deaths, or a mortality of 4.8 per cent.. Thirty-seven of the cases were delayed, and treated by the Ochsner method, with the result that 13 died, the mortality being 35 per cent. He now operates all these cases at once, except those in practically a moribund condition.

Here is a quotation from Ashhurst's paper: "I think we ought to recognize that those surgeons who advocate delay in resorting to operation, are quite likely to err by classing *as recoveries due to delay*, cases in which the patients were never very seriously sick in the first place; cases, I mean, in which many surgeons would, as I believe correctly, operate promptly, and find that the wound could be closed without drainage, and there would never be any question of the patients' recovery. Only those surgeons who look inside the belly can know the true condition of affairs during the acute stages of the disease."

Let us try to analyze the course of events; (1) if operation is done at once; (2) if the Ochsner treatment is used to tide the case over, operating at a late period.

(1) After using fluids intravenously or subcutaneously if the condition demands, immediate operation is done. Great care is used in removing the appendix without spreading the infection. Drainage is used or not as the operators experience leads him to decide. As soon as the massive pathology contained in the appendix is removed there is a chance for the subsidence of the infection. Perhaps already a protective zone of adhesions has formed. At any rate, if drainage is used as a localizing agent, adhesions form very promptly and hem in the pathological focus. I do not believe the operation, when done by a man, who has in mind the full significance of the pathological process present, ever scatters the infection to the detriment of the patient.

I would not, of course, operate on the moribund patient; in so critical condition, the operation, manifestly, would not be tolerated. There is another condition in which a few hours of preparation is necessary. The pulse is rapid and weak, the abdomen is blown up, vomiting has become almost regurgitant, dehydration is pronounced. In such a case the condition must be temporarily improved to make operation permissible. Two per cent chloride of sodium solution intravenously according to the Haden-Orr method to restore the chlorides; also glucose in ten per cent solution intravenously, is used in these cases. If improvement follows, operation is done in two to five hours; if no improvement follows, operation is useless.

(2) Those who believe in delay proceed as follows: If the case seems to be complicated by

gangrene, perforation or peritonitis, the Ochsner treatment is begun. The highest aim and the ideal result sought for, as voiced by the proponents of this method, is to prevent the spread of infection and hold the pus localized so that an abscess will form. Suppose by vigorous use of the Ochsner treatment it were possible to obtain this ideal result in all cases, then the patient would have to be operated for the resultant appendiceal abscess; and the mortality from this is about the same as results from immediate operation on this type of cases.

Unfortunately not all subjected to the treatment of delay develop an abscess. According to Ashhurst about one-sixth of those thus treated go on to a fatal termination without operation, dying of general sepsis, liver abscess, or general peritonitis. The outcome of these fatal cases could not have been worse if immediate operation had been done and, in all probability, an occasional case could have been saved by operation.

On the other hand several have found that a considerable percentage of the cases deemed suitable for the procrastination treatment, when operated later, were found to have had no gangrene, no perforation, even no adhesions were left to indicate that there had been any complication to justify the delay. These cases had been subjected to days and weeks delay, with the ever-present risk, even under the Ochsner treatment, of gangrene, perforation, abscess, peritonitis, when an immediate operation might have been done with no mortality.

This shows again that it is absolutely impossible to know the exact pathological condition of the appendix from any of the signs or tests that can be made previous to the operation. How often we make a pre-operative prediction of a simple acute appendicitis and are surprised on opening the abdomen to find gangrene, perforation, a beginning abscess, or peritonitis! The reverse of this is also true. No man, with an extensive experience in operating, has failed to find cases, which, previous to operation he considered complicated, the type the procrastinators would not hesitate to treat by the delay method, and on opening the abdomen, has found a simple acutely inflamed appendix, which was easily removed, required no drainage, and giving 100 per cent recoveries.

Under these conditions it seems pure speculation to draw an imaginary line and say: "Those on this side should be operated at once, and those on the other side must be put on the expectant treatment." If the surgeon could see into the bellies of his patients he would be surprised at the number he had placed on the wrong side of the line.

Brooks concurs in the contention I am making in the following statement: "Probably one of the chief causes of the still high mortality in acute appendicitis is the fact that medical treatment is given when the treatment should always be surgical." I am convinced that if we would go back to Murphy's dictum and operate on every case of acute appendicitis as soon as the diagnosis is made, it would save many more lives than to erect artificial barriers which can never be free from a high percentage of error.

The simple case, the one where the pathology is confined to the appendix, ought not to present any difficulty. And yet there is an occasional avoidable calamity. The aseptic technique should be without a flaw, and I am sure the aseptic technique is usually better than the manual technique. Many men with many standards of training are constantly removing appendices. Many men have never learned to respect live tissues. Gentleness in operating and the least possible insult to the tissues are necessary to obtain the best results. Every touch of the peritoneal surface provokes some irritative reaction. A comparatively slight amount of drainage will produce adhesions which, (a) may be harmless; (b) may cause a greater or less degree of distress and invalidism for the remainder of the patient's life; or, (c), sooner or later these adhesions may result in acute intestinal obstruction. One of the first duties of a surgeon is to develop what I call a "tactile conscience", which means moral inability to inflict any more traumatism to tissue than is absolutely necessary in doing the operation required.

Another important question is when to drain and how to drain. To reach a rational answer to this one must have clearly in mind what drainage in the abdominal cavity means. One should understand that drainage of the abdominal cavity is a physical impossibility. What we do, when an attempt is made to drain, is to secure quickly an adhesive wall between the free peritoneal cavity and the infected pocket which it is desired to drain. It is solely a question of quarantining the infected area for the protection of the general peritoneum. Drainage is an effort to render the infected segment in the region of the appendix, extra-peritoneal.

When the appendix is gangrenous and has not yet disintegrated, the abdominal wound can be closed without drainage. When injection of the peritoneum, with some turbid fluid, is present, the question of whether to drain or not must be left to the judgment of the operating surgeon. As a rule in these cases drainage is superfluous, and recovery will be more comfortable, prompter and surer than if drainage is used.

If the appendix has perforated, or the disorganization of the gangrenous appendix has already occurred, enough gross destruction of the contiguous peritoneum will already have taken place to form a focus of infection from which the remainder of the peritoneal cavity must be protected by an efficient drain. When this condition exists it is highly important that the operation be done by skilled hands backed by trained judgment. An operation properly performed at this stage, I am certain, will result in a lower mortality than can be obtained by the procrastinators by any expectant treatment yet devised.

It is not possible to lay down any hard and fast rules with regard to drainage. Surgeons differ so widely in their ideas that no standardized method has yet been formulated. As we get more confidence in the peritoneum's ability to protect itself the tendency is to use drainage with more discrimination and to omit its use more and more. But when a localized abscess is present, with destruction of the peritoneal membrane forming its walls, the area thus destroyed is no longer peritoneum, but extra-peritoneal tissue, no longer amenable to the self-protecting properties of normal peritoneum. I see no logic in neglecting to drain such an area.

The after treatment of a simple acute appendicitis need not be elaborate. Plenty of fluids should alway be used. Cases of this type ought never be allowed to suffer from dehydration or acidosis. If vomiting gives any trouble, gastric lavage usually relieves. Cathartics are better dispensed with.

In the complicated cases where drainage has been used the problem of after treatment is much more difficult. A prophylactic gastric lavage, as soon as the operation is concluded and before the patient is removed from the operating table, will often prevent vomiting or defer it. The use of fluids is of vital importance. Glucose per rectum, or intra-venously, if the need is great, and large volumes of normal salt solution, are the sheet anchors.

For the vomiting, which is especially serious in the cases of diffuse peritonitis, frequent gastric lavage, or even better, the constant use of the Levine tube, are often the determining factors between life and death. The Levine tube has made the necessity of jejunostomy less frequent, though conditions sometimes arise where jejunostomy is a life saver. It is highly important that, if jejunostomy is to be done at all, it should be done before peristalsis ceases. I have never seen a case recover when the operation was done on a still intestine. When fluids flow freely through the jejunostomy tube, the prognosis is good; when the flow is scanty or absent a fatal result is to be anticipated.

In conclusion I think the facts bear out the belief that the death rate of appendicitis is steadily increasing, and that the increase is due to the management of acute appendicitis being less efficient than it was. The chief factor in the mounting mortality is delay in operating. This delay permits a simple acute appendicitis, with its pathology limited to the appendix, with an operative mortality of practically zero per cent, to become complicated by gangrene, perforation or peritonitis with an operative mortality of from 5 to 25 per cent.

The next most important factor in the mortality is the indiscriminate use of cathartics, which are absolutely inexcusable in any case of acute appendicitis.

Frankly, I believe we have no right to sit complacently by and permit a steadily increasing death rate from appendicitis to continue without a heroic effort to stop it. I have enough confidence in the profession to which I am proud to belong to believe the fault lies more in failure to realize the serious condition that exists than from any inability to cope with the question intelligently and effectively.

DISCUSSION:

J. F. LANGDON (Omaha): When one arrives at the stage where he thinks he knows all that is to be known about a given subject he is sure to soon find that he is badly mistaken. As regards appendicitis that seems to be exactly the position in which the medical profession finds itself today. As Dr. Davis points out, appendicitis is but little discussed in medical meetings at the present time. We have drifted along thinking that the last word has been said when suddenly we are awakened to the fact that the mortality has increased most astonishingly. In seeking a reason the first thought that occurs to me is, what is the treatment now as compared with the treatment fifteen or twenty years ago? Twenty years ago few acutely inflamed appendics were removed. Drainage was the routine treatment. At the first sign of pus a drain was inserted and the removal of the appendix left for a later operation. Adhesions were not broken up, nature's efforts at "walling off" were not interferred with, and the patient had a good chance of recovery. I am not advocating this as a routine procedure today because I believe most surgeons can, and do, remove an acute appendix without spreading infection to the peritoneal cavity. However, a careful technique in this class of case is important. Dr. Davis very cleverly puts the patient, the physician, and the surgeon on trial. I would put the greatest blame on the patient because I believe it is the mismanagement of the case before the physician is called that is the greatest factor in the high mortality of this disease. This mismanagement consists of the pernicious habit that is prevalent of taking a cathartic in the presence of an acute appendicitis. For years I have asked every one of my patients suffering with acute appendicitis if he has taken a cathartic, and in fully 90% of the ruptured cases the answer has been in the affirmative. I do not believe this is exaggerated. After all we cannot exactly blame the patients because they know no better. If every person could be told that to take a cathartic in the presence of an acute abdominal pain is a dangerous procedure, I am sure the mortality of appendicitis would be lowered. This brings up the subject of "Health Education" and the responsibility of the profession in that regard. There should be a definite plan to disseminate medical knowledge among the people. Magazines, newspapers, radio and such should be utilized for this purpose.

Judging from my experience I believe that the physician who first sees the case is not often to blame for delayed operation. Most physicians seem to realize the situation and endeavor to get the patient to operation as soon as possible. Of course, there are some who procrastinate and they are a factor in keeping up the high mortality. The surgeon, as a rule, I believe, operates rather promptly. Here again the procrastinator does his share to keep up the high mortality.

Our treatment of complicated cases is far from satisfactory though much improvement has been made. Cases complicated with peritonitis take a high toll of life. Perhaps our greatest advance in the treatment of these cases has come from the study of blood chemistry. Jejunostomy is a debatable proceedure. Dr. Davis remarks that he has never performed a jejunostomy on the still gut and got any results. This, I believe, is the crux of the whole question of jejunostomy. It must be done before peristalsis has ceased, and the earlier the better. The ideal time to do it is at the time of the original operation. If the case is a pus case—perhaps not well walled off—then a jejunostomy done as a preventive measure against the threatened ileus is I believe good surgery.

I wish to compliment Dr. Davis for his good judgment in bringing this subject before the society. It is a question that deserves the careful and immediate attention of the medical profession.

B. B. DAVIS, M. D. (closing): I feel very grateful for the kind words that have been spoken and the many valuable points brought out in the discussion. I hoped that some man would get up and roast me for the position I take with reference to operating in practically every case, regardless of length of time the patient has been ill; for that is really the only debateable point regarding the treatment of appendicitis. There are two things that are possible for a doctor to do: One is to say "No" if he does not know; and the other is to realize that in a case of acute appendicits it is impossible to tell the exact pathology without opening the abdomen. If we have a patient with a leucocyte count not very high, an abdomen with not very marked rigidity, the appendix may at the same time be gangrenous around the point of perforation. In other words, no man can tell what the pathology is through the abdominal wall. You may have very mild symptoms and the appendix be practically gangrenous; the symptoms may seem extremely acute and the appendix only mildly inflamed. It seems to me that in all these cases we must go back to the point that it is not safe for us to advise delay in any case, for the reason given that exact diagnosis may not be made clinically.

PULMONARY TUBERCULOSIS WITHOUT LUNG SYMPTOMS

Case Reports Illustrating Principles of Diagnosis

MILES J. BREUER, M. D.,
Lincoln, Nebr.

1. The importance of tuberculosis as a major cause of death, has, contrary to prevailing impressions, increased in importance during the past few years. That is because it kills people in the third and fourth decades of life when they are at their best; whereas the four major causes of death, malignancy, pneumonia, cardiovascular-renal disease, and diabetes, for the most part kill people well on toward the natural end of life.

2. The actual increase of the death rate from tuberculosis is reported on the increase in some places (Bulletin of the Chicago Municipal Tuberculosis Sanitarium). The preventive efforts of organized society are not keeping pace with the unfavorable effects of life under increasing pressure and the artificiality of civilized living habits.

3. Tuberculosis is curable, and premature deaths from it are preventible, if the condition is recognized early, and treated long enough.

4. Tuberculosis is looked upon too much as a disease only of the lungs, and not enough as a general systemic state recognizable only by a thorough study of the entire individual as related to his environmental setting throughout his entire life.

5. "Early" cases are widely prevalent through the community. They are not being recognized because symptomatology does not point directly to the lung. They are being treated for the wrong diagnosis, not being treated long enough, and being permitted to reach the advanced, hopeless stages. Medical men who do recognize them are being accused of "calling everything tuberculosis."

For the above reasons it is considered appropriate to present a number of these "early" cases, with all the data and to set forth the reasoning process on the basis of which the diagnosis was made. A series of these cases will be offered, illustrating types of cases and varieties of problems they present. The appended case is illustrative of a state commonly enough found: acute tuberculous allergy, manifesting no complaints nor symptoms which in any way suggest lung involvement, and in which the diagnosis can be made only on the basis of a thorough understanding of the pathogenesis of tuberculosis and a complete knowledge of the patient as an individual human being set in an environment.

CASE I

This case has formed the basis of discussion among a considerable number of physicians who had seen him at different times or in consultation.

Complaint presented by the patient: Weakness; decreased capacity for work. Six months ago, an attack of pain in the region of the sacro-iliac foramen, which has now disappeared.

Complaints elicited by questioning: Present decrease in physical capacity for effort is of two months' duration. It began imperceptibly and increased gradually; it did not become severe enough to send him to a doctor until two weeks ago. At that time he had to quit work completely because he was too weak.

This capacity defect is of the following type: the patient does not feel like exerting himself at all. If he forces himself to do so he feels better during the time he is exerting. Endurance is fair during exertion. Malaise and sense of fatigue are increased and severe afterwards, beginning in a few hours and coming to a maximum in a day or two.

Appetite poor; no gastro-intestinal symptoms. Bowels move once a day; the stool is of normal size and shape, but hard in consistency. All the physicians whom he has seen, have agreed in prescribing cathartics.

Dyspnea on effort; increase in rate of breathing, but not any actual sensation of air-hunger. Frequent sudden attacks of weakness; he has never actually fainted, but has frequently felt that he was going to.

Sleep is sound for 8 hours. Occasional vertigo on change of position. No headaches.

No symptoms nor complaints referable to the genito-urinary or respiratory tracts.

Family history:

Wife 48, living and well.

Father died at 75, apoplexy, 1919.

Mother died of nephritis at 72, 1915.

One brother, 53, living and well;

One brother 60, same complaints and condition as the patient.

Paternal grandparents lived till about 90; maternal till about 70.

Paternal uncle died of tuberculosis.

Past history:

Measles in childhood.

Influenza 10 months ago, during the epidemic of 1928.

Infected tonsils removed 16 years ago; recurred.

Infected teeth discovered and removed promptly a few months ago.

Between the ages of 20 and 50 had frequent attacks of frontal headache, associated with gas, eructations, nausea, and vomiting.

Since the age of 40 has had three attacks of sciatic-nerve pain, each lasting about three months and receding spontaneously.

Immigrated to the United States at the age of 20. Up to that time had lived comfortably; had always been well and in good nutrition. At the age of 20 a period of hardships began; he was compelled to put in long hours and heavy work. The habit remained with him, and he has worked hard and long ever since, even though it is no longer economically necessary. He now farms 220 acres with the help of one farm hand.

He has always gone at his work intensely and still does so; he is strenuous by nature.

No tobacco; no alcohol; indulges heavily in salt.

Summary of History: We have a middle-aged man of high-strung and hard-working personality, complaining of a recent loss in physical capacity. Good family history, except for two cases of cardiovascular-renal disease in old age, and one case of tuberculosis in early middle-age, and a presumptive case of tuberculosis in a brother. The patient was well until he had to undergo the hardships of an immigrant in a new country; for 35 years he has been under physical stress. His habits are good. During the 35 year period he has had headaches and gastro-intestinal symptoms; influenza; infected teeth; infected tonsils.

Examination:

Head: Gums red and spongy around several teeth.

Left tonsil cryptic, inflamed; pus expressed (checked as pus under the microscope; numerous organisms including streptococci found).

Chronic atrophic rhinitis; maxillaries cloudy to transillumination, but normal on X-ray examination.

Tympana dull and retracted.

General: Worried, apprehensive expression. Nutrition good.

Both feet flat. All reflexes somewhat sluggish.

No tenderness in sacro-iliac notches nor along courses of sciatic nerves.

Abdomen negative; genitals and prostate negative.

Heart: Percussion and x-ray shadow show a slight degree of enlargement to the left (total oblique diameter, 16 cm); and a slight widening of the area of the great vessels (width at 3rd rib, 6.5 cm.).

Sounds normal; aortic second somewhat accentuated; rhythm regular; pulses equal and synchronous. Pulse rates: recumbent 94; sitting 98; standing 108; after exercise 112; in 3 minutes, 98. Blood pressure 135/90.

Lungs: Funnel-shaped depression in lower end of sternum.

Shape of chest, normal.

Enlargement of skin venules over both apices.

Prominent hilum dimple on both sides.

Left shoulder 1 inch lower than right; head tilt to the right.

Both clavicles prominent on account of retraction of the surrounding tissues; more prominent on the right.

Hypertrophy of right sterno-mastoid and scalene.

Atrophy of right trapezius crest and deltoid crest, right pectoralis major and upper intercostals.

Marked increase in tactile fremitus on the left side.

No rales.

Expansion of apices on respiration is poor; left apex lags markedly behind the right.

Widening of hilum dullness; deficient resonance over entire left lung anteriorly.

Increase in vocal pectoriloquy over entire left lung; increase of whispered pectoriloquy over right apex.

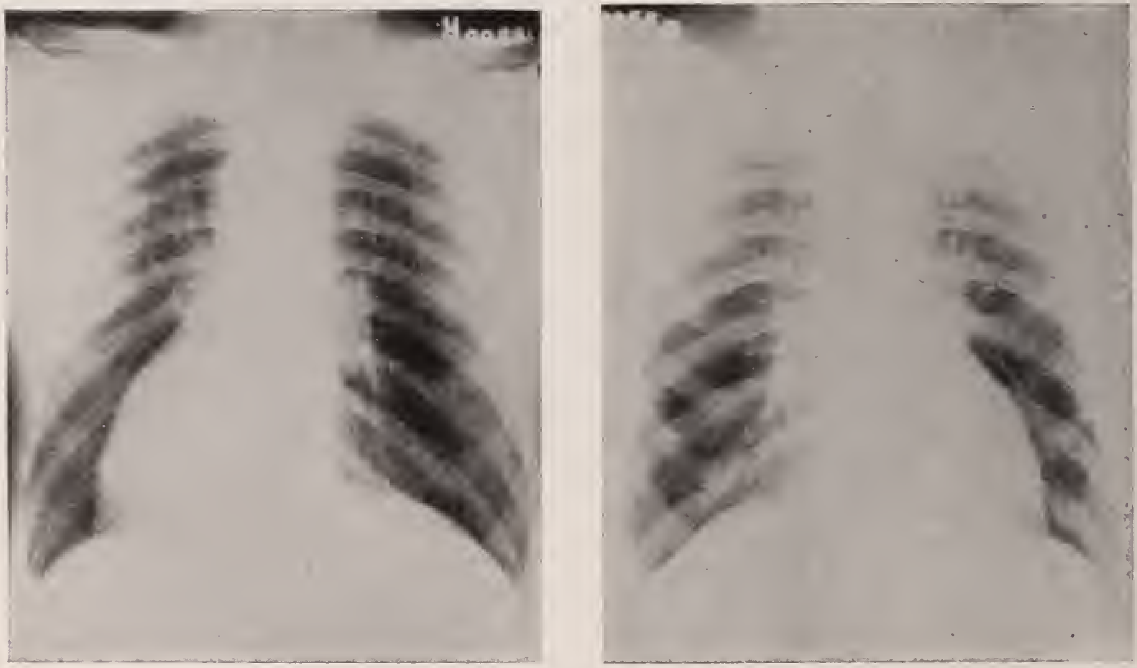
Breath sounds tubular over most of left lung in front; prolonged expiration over entire left lung posteriorly.

Lagging of left scapula.

Kroenig's isthmus: right 4.5 cm; left 6.0 cm.

Respiratory excursion of bases: right 3 cm; left 4 cm.

d'Espine's sign to 7th cervical spine.



FRONT ROENTGENOGRAMS BACK

Moderate stoop of shoulders.

Laboratory:

The patient is up to average weight for his height and age: 158 lbs. But he is below his optimum weight, for at periods when he has felt at his best, he weighed 175 lbs.

Temperature, taken with thermometer in the mouth for 15 minutes, 99.8.

Urine: normal specific gravity and otherwise negative, in several specimens.

Red cell count, 5,240,000; leucocyte count, 7,450; hemoglobin 14.4 mgm per 100 cc or 85 o/o. Color index, 85/104 amounting to a secondary anemia.

The blood sedimentation curve suggests the presence of a low-grade inflammatory lesion.

Basal Metabolis Rate, plus 8 and plus 6.

Note the curves of:

Schilling count,

Blood sedimentation test,

Frost's Cardio-respiratory test of Heart Function,

Electrocardiogram.

GENERAL SUMMARY OF ENTIRE EXAMINATION:

No evidence of organic involvement of sciatic nerve.

Heart: The slight enlargement is readily accounted for by the patient's 35 years of hard physical labor. Though he has a tachycardia, he has nevertheless an excellent reaction to physical exertion; Frost's cardio-respiratory curve is within normal limits. There is no pathology in the electrocardiogram.

Lung: There is a definite but low-grade involvement of the left lung. The involvement is fibrotic in type, without evidence of exudation. Both physical findings and x-ray evidence are but slight.

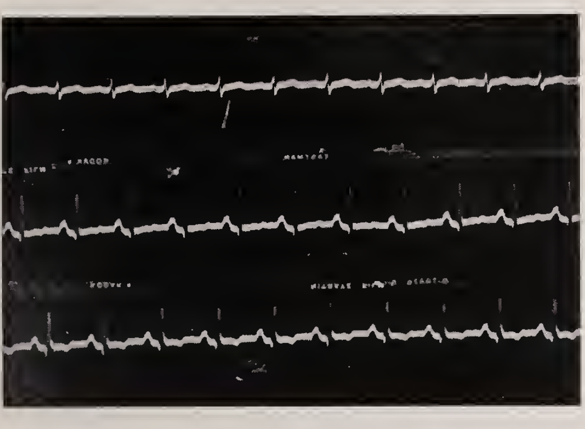
There is one badly infected tonsil; and the gums around several teeth are suspicious of infection.

DIFFERENTIAL DIAGNOSIS:

Heart involvement must be considered on the basis of the tachycardia, the slight enlargement, and the possible etiology from the tonsil. The question first to be answered is: Is the heart disease at the basis of his symptoms and complaints? The second is: Does he have enough heart involvement to be a clinical problem?

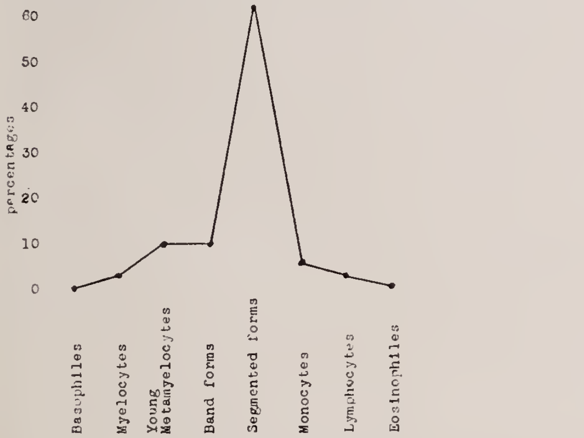
We have normal response to tests of heart stress, a normal electrocardiogram, a normal cardio-respiratory curve. The increase in the size of the heart is no more than might be expected from the patient's past habits of hard work. The character of his fatigue, occurring, not promptly, but many hours after exertion is suggestive, not of heart disease, but of inflammatory reaction to physical stress. If the temperature and tachycardia were due to a direct heart infection, the leucocyte count would be much higher than it is. All of the evidence pointing to the heart is too slight to explain the patient's severe prostration.

We must admit that his heart ought to be observed for the sake of absolute safety; but there are no tangible signs of heart disease, and we must look further for the explanation of his symptoms.

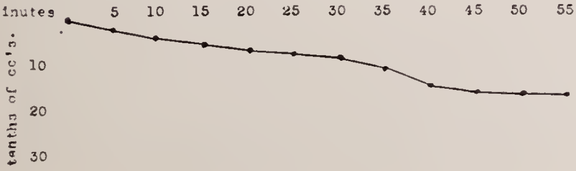


ELECTROCARDIOGRAM

Hyperthyroidism must be considered because of his nervous state and his tachycardia. The basal metabolic rate, plus 8 and plus 6 on duplicate tests after deduction for temperature, is slightly above normal, but not sufficient to be pathological nor to account for his severe loss of capacity. He lacks the "drive" of the hyperthyroid patient. He has a tremor, but it is a coarse, slow tremor of muscular fatigue, not the fine, rapid tremor of the hyperthyroid state.

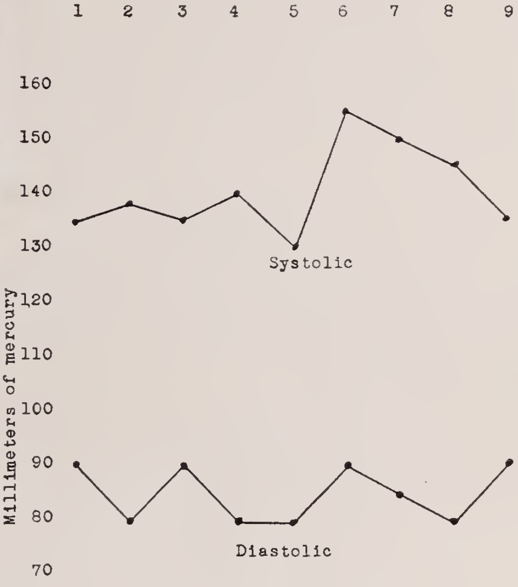


SCHILLING DIFFERENTIAL COUNT



BLOOD SEDIMENTATION TEST

Psychoneurosis may be ruled out by these considerations; First, there is no definite, consistent picture of an etiology to which the symptoms could be a logical, compensative response. Without such a picture, no definite diagnosis of psychoneurosis could be made. Secondly, this man has built up a large, successful farm by the work of his own hands; neurotics do not do that. Thirdly, his wife volunteers the information that he works too hard physically, and cannot be persuaded to take the proper rest.



FROST'S CARDIO-RESPIRATORY REACTION

EVIDENCE SUPPORTING THE DIAGNOSIS OF PULMONARY TUBERCULOSIS

The severe prostration at first thought suggests the presence of some marked and extensive organic lesion. No such lesion is found, after a most exhaustive search. Even the pulmonary lesion is a very slight one.

But an allergic reaction due to a reinoculation from a tuberculous focus in the lung is quite capable of producing the loss of capacity for physical effort of which the patient complains. It is the only conceivable explanation which will fit the whole picture.

From the standpoint of Pottenger's symptom groups, this case on analysis presents the following evidence in favor of a diagnosis of pulmonary tuberculosis:

Infectious:
1. Temperature with leucopenia.
2. Malaise.
3. Anorexia.
4. Loss of weight.
5. Tachycardia.

Reflex:
1. Gastro-intestinal symptoms.

2. Headaches.

Local:

1. Increased density on the left side of chest.
2. X-ray findings.

The history constitutes highly valuable evidence. There is a death from tuberculosis in an uncle with whom the patient was closely associated in childhood. The onset of his own symptoms is coincident with the beginning of his hardships as an immigrant. His symptoms are all explainable on the basis of one thing: a pulmonary tuberculosis that has stretched out over thirty-five years, with ups and downs in intensity, never very serious, but gradually becoming worse.

The x-ray evidence tells us that there has been a great deal of slow infection with numerous small foci in the past, as evidenced by the fibrosis. This means that there have been active lesions present, which are now fibrosed and even calcified, but which still remain as possibilities for reinfection.

TREATMENT

The patient was advised to have the infected tonsil out. to decrease the load of infection on his system.

He was directed to get out from under the load of physical work and mental strain of running his big farm with his own hands.

A careful, painstaking explanation was made to him of his condition, so that he would understand it thoroughly; it is necessary on the one hand that he properly appreciate its gravity, and on the other that he does not go into a panic.

In regard to diet, he was instructed particularly as to proper balance of proteins, carbohydrates, vitamins, and minerals; he was advised to keep his salt content low; and was given directions for a diet that would produce an alkaline tissue-reaction.

The need of prolonged rest and constant observation of his case was emphasized.

PROGRESS

He grasped his situation promptly, and set to work to cooperate enthusiastically and adequately.

His gain in weight was prompt. As his natural or optimum weight is in excess of the standard or average, it was considered advisable to let him reach the former. Reduction later by properly advised exercise, might or might not be advisable.

There was a prompt subsidence in the tachycardia. Within a month his pulse was between 70 and 80.

There was a gradual gain in his feeling of well-being; the malaise disappeared, and has capacity for work increased.

His temperature came down to normal in four months. It has remained there most of the time since; on two accasions it rose temporarily, but soon subsided.

His blood pressure has remained around 135/80. On one occasion it rose to 200/110. This occurred when he came in after having lost weight and was beginning to feel his malaise again. He was found to have a sore throat with leucocytosis. The sensations incident upon the slight intercurrent infection had alarmed and he though he had lost ground. When I explained the situation to him, his blood pressure dropped in an hour to 160/90. Then mental factor in such cardiovascular disorder as he has, was thus vividly confirmed.

At present the patient can stand a moderate amount of work, but is still on a schedule, as he will have to be for two or three years. He has been taught to keep within his fatigue limit, and the necessity of his doing so for the rest of his life has been emphasized.

SURGICAL INTERVENTION IN INFECTIONS OF THE UPPER URINARY TRACT

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Surgical intervention in infections of the upper urinary tract naturally presupposes that routine treatment is inadequate or has failed, that sufficient progression of the pathological process has ensued to jeopardize the life of the patient. This may have come about through the inroad of a slowly progressive destruction or an acutely fulminating infection.

I am assuming that drainage by the ureter catheter is a surgical procedure—minor perhaps, yet, all too frequently forgotten in favor of the major procedure. The implantation of an in-dwelling catheter, or oft times the simple dilatation of the ureter by the mere passage of the catheter brings striking subsidence in an otherwise grave picture. There is no issue of contention with its use in chronic infections. There does seem to be. however, a certain hesitancy to its use in acutely infected processes. I will not argue for the curative effect in acute cases. However. the ureter catheter will tide many a patient over a grave crisis. There are those acute cases where the question of an operation cannot be immediately determined. The patient is so sick that one hesitates to do nothing, and yet not so sick that one feels justified in operating at once. In such cases, the ureteral catheter may be of marked benefit, or its mere presence may act by intensifying the situation and help to establish in the mind of the physician the decision for surgical intervention.

Surgical relief of infection in the upper urinary tract other than by the ureter catheter, requires the knife. The necessity for an open operation for relief of infection is required under two sets of conditions.

First: When the infection is a secondary matter, and where stone or retention is the primary object of the operation.

Second: When infection is the primary and important consideration.

In the first group the offending obstruction is relieved through an opening in the ureter or kidney pelvis. The ureter dilated and a drainage tube inserted, and wound allowed to heal.

This paper will not further discuss this group. It is to the second group of cases that I wish to devote the remainder of my remarks, and I desire to presage any ensuing discussion with a plea for a more conservative attitude on the part of surgeons in their surgical attacks upon infected kidneys.

It is my opinion that there has been a tendency for the pendulum to swing too far to the side of radicalism in this type of surgery.

In the consideration of this second group of cases, the infected kidney requires operation under three conditions:

1. Pyonephrosis.
2. Acute focal suppuration.
3. Perinephritic infections.

The treatment of pyonephrosis is nephrectomy. These pyonephrotic kidneys are often of great size. They have an enormous blood supply, and infrequently present a variety of technical problems.

These cases are not infrequently "in extremis", and while the mortality rate, where a primary nephrectomy is instituted, is surprisingly low, yet any procedure which can be instituted to further lower this mortality is an essential to institute. These cases usually present a troublesome post-operative course from the standpoint of meteorism, due to a temporary paralytic ileus. This seems to be in direct proportion to the adhesion of the perirenal tissues to the posterior surface of a large bowel, and the amount of trauma necessary to their removal.

To superimpose such a post-operative course upon a patient already overcome by an overwhelming urosepsis, is in my opinion, imposing an unnecessary hazard.

It is in this class of cases that a two-step nephrectomy is urgently indicated. A small lumbar incision, under a local anesthetic, with a drain tube into the pyonephrotic sac will take the burden of absorption from the patient's physical economy. The general improvement is often immediate and rapid. The urosepsis disappears; the bladder symptoms subside; the appetite improves and there is a gain in weight. Such drainage should be continued until it is felt that the risk is minimal for nephrectomy. and then a nephrectomy can be instituted.

Such a procedure may, to some extent, increase the technical difficulties in the secondary nephrectomy. Yet this should not be allowed to stand in the way of reducing the operative hazard in such a patient.

The two-step nephrectomy, of course, requires longer hospitalization, but this is not a factor if the procedure is life saving.

In the case of focal suppurations of the kidney it is impossible to say just where the line should be drawn between cases that should be treated conservatively and those that should be subjected to a nephrectomy. I do believe, however, that one should be very slow to remove any suppurating kidney that has fair function without a thorough try at conservative measures, —irrigations perhaps in the lesser degrees, and drainage through the loin in the more advanced stages.

Double renal suppurations are not of infrequent occurrence in this class of cases. If there is evidence of suppuration in the second kidney, one should be very cautious about doing a nephrectomy. There is no question but that mercurochrome intravenously has a very definite place in the adjunct treatment of such a condition. I have but little faith in the tradition that the removal of a suppurating kidney will cause a slight suppuration in the other kidney to clear up. More often in a condition of this kind it will indicate that there is a beginning suppuration of the second kidney similar to that in the side first involved, and it should be taken as a contraindication for a nephrectomy under anything but the more unusual conditions.

This calls to mind the case of a girl twelve years of age, living in the country, whom I saw a few years ago. She was desperately ill. She had a fulminating temperature, an extremely high blood count, severe epigastric pain, and an acutely painful, palpable kidney. She had been sick for about ten days and was in extremis.

The left kidney was exposed through a lumbar incision and presented a decidedly enlarged kidney, dark purplish in appearance, and it was studded over its entire surface with myriads of abscesses, from a millimeter to a centimeter or more in size. There was no knowledge of the state of affairs of the other kidney. and because of this it was decided to proceed conservatively. The kidney was decapsulated and dropped back into its fossa with a rubber tube drain through the wound. Mere decapsulation in this kidney seemed to work a marvel. At the end of ten days following her operation she was free of all symptoms and findings, and she made an uneventful recovery.

Such procedure as this is commonplace today. and one now almost never hears a nephrectomy advised in these very acute inflammations of the kidney—the so-called hematogenous infections. It is pretty generally considered that where surgery is indicated in these cases, decapsulation or nephrotomy should be the primary consideration before nephrectomy.

In the perirenal inflammations of the acute type, incision and drainage is of course the primary consideration.

Of the more chronic, long standing type of perinephritis, one's judgment is not infrequently keenly taxed in deciding just what course to pursue. There is usually no more than a complaint of a constant pain.

I have recently seen two cases of the chronic fibrous perinephritis type wherein a nephrolysis and decapsulation were performed with brilliant results. There was only minimal demonstrable pathology by ureter catheter or pyelogram. The diagnosis in these cases was based chiefly upon increased pain through forced fluid intake.

Each of these kidneys was tightly bound down by the chronic fibrous perirenal inflammatory tissues necessitating rather laborious dissection to free them. The capsule in each instance was decidedly thickened and fibrous, the removal of which apparently allowed normal distensibility of the kidney.

In my judgment there are two factors which tend to radicalism in kidney surgery. The first is our knowledge that one normal kidney is more than adequate to carry on the work of urinary excretion. This combined with our desire to relieve the patient symptomatically, and our experience that conservative operations have not always done this, tends to make us willing to sacrifice a little renal tissue in the interest of quick recovery.

The second is that our ability to diagnose renal disease more accurately, the use of methods by which we are able to recognize much lesser lesions than it was possible to do formerly, have rather distorted our perspective, causing us to put an over great importance on relatively slight variations from the normal in an attempt to achieve surgical idealism at the expense of conservatism.

I appreciate the fact that it is difficult to estimate accurately the worth to a patient of a given kidney. I also appreciate that not infrequently in these infections of the kidney, no matter what course one pursues. that the prolongation of life, for any length of time, is quite impossible. Yet I do believe we not infrequently see cases wherein the wise conservation of renal tissue may prolong life for perhaps an appreciable period. If we will keep in mind the importance of saving as much renal tissue as possible in any given case. and approach these infections in this manner. we will in many cases definitely lengthen life. Let surgery be instituted if necessary. but as conservatively radical surgery as possible.

FREE PRESCRIPTION

Customer: "So you've got rid of that pretty assistant you had?"

Druggist: "Yes; all my gentlemen customers kept saying that a smile from her was as good as a tonic!"

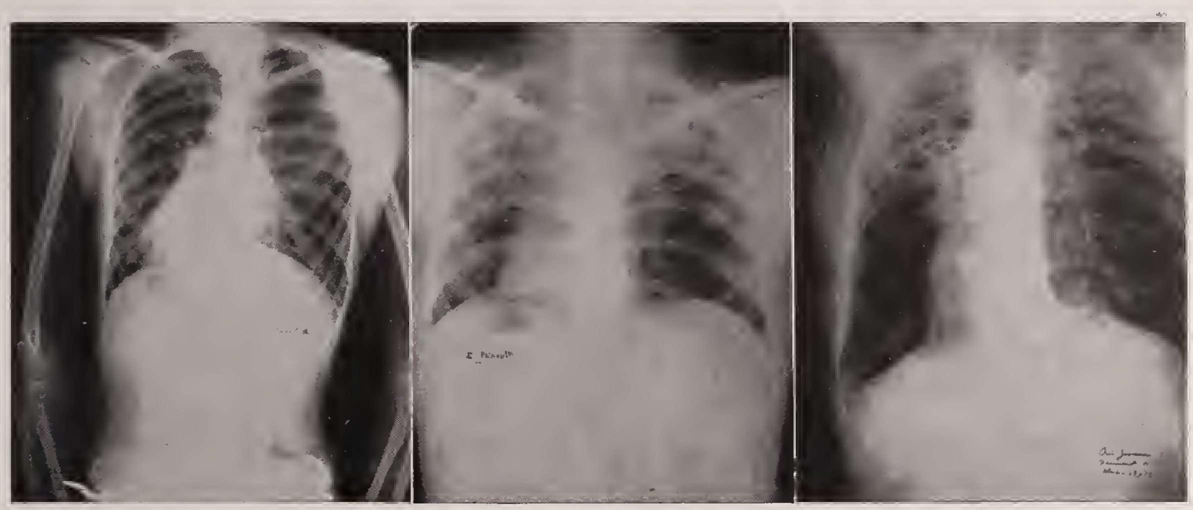
A man arrested in minot. N. D., is alleged to have had several healthy teeth extracted in order to pass worthless checks on the dentists. Showing to what lengths some men will go for the sake of a little cash.

SURGICAL MANAGEMENT OF PULMONARY TUBERCULOSIS*

CLARENCE EMERSON, M. D.,
Lincoln, Nebr.

The operative management of tuberculosis is a comparatively recent field of surgical progress. The treatment of tuberculosis by operative methods has been restricted mainly to a few localities. Laymen generally and many physicians who have not had a special interest in thoracic surgery or tuberculosis are incredulous at the suggestion of surgical treatment of this disease. Among thoracic surgeons however it has advanced to a degree that standardized practice has become well established.

The principle of rest to the involved part has long been recognized as paramount in the healing of tuberculous lesions. In bone and joint tuberculosis where this principle is easy of application the beneficial results are well established. The constant motion of the thorax and expansion and contraction of the lungs have presented special problems in the effort to carry out the principle of rest to pulmonary lesions. Tuberculous abscesses are kept in an unfavorable condition for drainage and healing by the atmospheric air-pressure against the inner surface of their walls.



CASES NOT SUITABLE FOR SURGICAL MANAGEMENT.
I. CASE OF JUVENILE TUBERCULOSIS. MAJOR INVOLVEMENT IN MEDIASTINUM.
II. NEARLY COMPLETE BILATERAL INFILTRATIVE LESION. NO CAVITATION.
III. EXTENSIVE CAVITATION IN BOTH LUNGS. (ALSO PHARYNGO-LARYNGEAL ULCERATION).

There is a natural reaction against subjecting to any operation a patient seriously ill with tuberculosis. This prejudice can only be overcome by convincing evidence that an appreciable number subjected to it have been restored not only to health, but to usefulness, to gainful occupation.

A compilation by Alexander of statistics of all cases operated in all countries up to 1925, is tabulated as follows:

Recovered	37 per cent
Decidedly improved	24 per cent
Unimproved	5 per cent
Immediate mortality	1.5 per cent
Mortality in first six weeks	12 per cent
Mortality not connected with operation	19 per cent

Thirty-seven per cent of all cases in all countries receiving surgical management recovered to resume gainful occupation. Twenty per cent were decidedly improved. This result is encouraging and seems to justify surgical management in the types of cases which are hopelessly moribund under medical management alone.

The most important consideration involved in the surgical management of tuberculosis is the selection of cases, for on the one hand is the large group of patients who will make a good recovery without operative procedures and on the other hand the patients who are hopelessly moribund in any case. Between these two divisions are many patients for whom a properly selected operation will restore the balance in favor of recovery.

All of these operations have the effect of reducing the lung capacity by partial or complete collapsing of the lung and of reducing its excursion. The principle of rest is obtained as well as approximation of abscess walls.

Pneumothorax will not be discussed here since it has become so well established and is a comparatively minor procedure which many internists include in the category of medical management.

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*Read before annual meeting Nebraska State Medical Association, Lincoln, May 13-15, 1930.

INDICATIONS

The indications for surgical management of tuberculosis constitutes an extensive and difficult subject in itself. Recognition and acceptance of this form of treatment will depend upon the success with which indications and contraindications are determined.

Generalized bilateral tuberculosis with diffuse infiltrations and no cavitation is best managed by medical and dietary means. Surgery is usually unnecessary or because of the widespread involvement is positively contraindicated. These cases are likely acute, and little natural resistance is established. All recent cases (not necessarily recently diagnosed for some cases report late) should be considered medical until a thorough trial by dietary management has been made. I include pneumothorax as a part of medical management and do not restrict it as I do the other surgical procedures.

The outstanding indication for major surgical procedures is cavitation especially when markedly preponderating on one side. Repeated hemorrhage uncontrolled by pneumothorax offers another positive indication. Unilateral cavernous tuberculosis furnished the great majority of cases that are placed in the category for surgical management. Bronchial fistula and tuberculous empyema demand operative treatment if the patient's involvement and general condition warrants it.

The common operative procedures that have been found useful in the management of tuberculosis are:

1. Pneumothorax (considered a part of medical management).
2. Phrenicotomy.
3. Apicolysis.
4. The Coffey Operation.
5. Partial or Complete Thoracoplasty.

PHRENICOTOMY

Phrenicotomy was first proposed by Steurtz in 1911 to paralyze the diaphragm on one side for severe unilateral tuberculosis.

ANATOMY

The phrenic nerve has its origin in the 3rd, 4th and 5th cervical roots and occasionally some fibers come off of the 6th, 7th and 8th and 1st thoracic roots. Its course in the neck is obliquely downward and medially over the scalenus anticus muscle and in the chest along the external surface of the pericardiam to the diaphragm. An accessory phrenic nerve is present at times lying near the phrenic nerve on the scalenus anticus.

PHYSIOLOGIC EFFECTS

Radical section of the phrenic nerve and accessory nerve causes a complete paralysis of one-half of the diaphragm. This part immediately rises passively and remains in the full expiratory position. Active motion of this side is lost but small excursions simulating small normal respiratory movements of the paralyzed diaphragm take place from the tugging on the mediastinum by the excursion of the normal side. In addition paradoxical movements (Kienboch's phenomenon) in which the relaxed and atrophied diaphragm is sucked upward by inspiratory effort occurs. The Bittorf test for paralysis of the diaphragm utilized this phenomenon by fluoroscopic observation of the ascension of the paralyzed side when vigorous inspiratory effort is made with the mouth and nose closed.

Normal respiratory excursion with one side paralyzed presents a to and fro swaying motion of the diaphragm which the paralyzed side participates slightly but only in a passive way.

When the phrenic nerve is first cut or crushed a spasmodic jerk of the diaphragm is evident both to the patient and the surgeon.

After radical phrenicotomy including section of the accessory phrenic nerve the tone of the diaphragm is never regained and function is not restored. Many earlier observers (Hauke, Walther. Goetze) have reported rapid return of small normal movements but it is quite likely that the passive movements due to the tug on the mediastinum were interpreted as active muscular contractions.

REDUCTION IN LUNG VOLUME AND PULMONARY REST

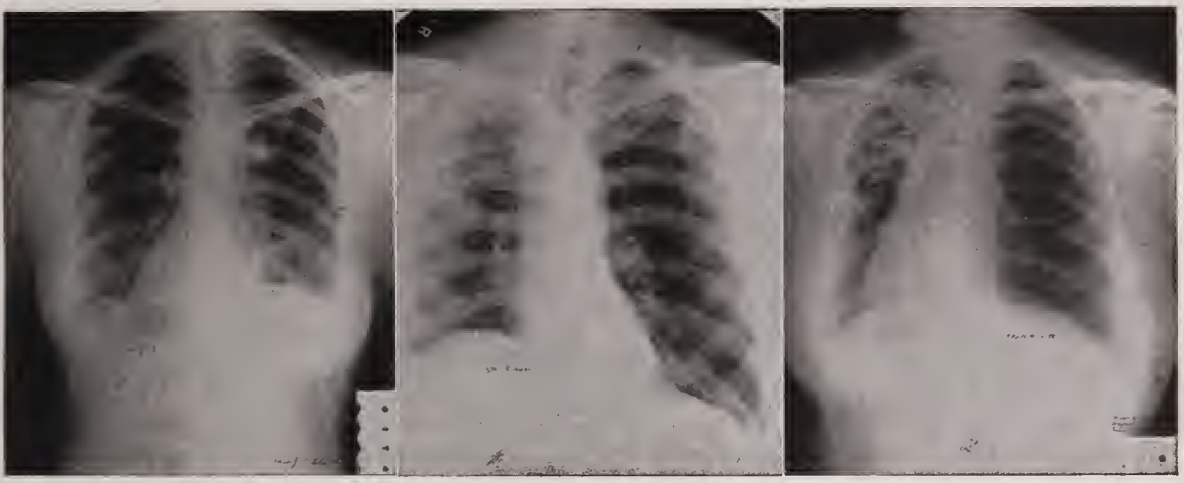
The immediate result of phrenicotomy on lung volume is a reduction of one-quarter to one-third. (Heuschen and Walther).

As time goes on the diaphragm thins out, its muscles atrophy. It ascends to a higher level and further reduction in size of the lung takes place. Often the mediastinum and the heart are markedly displaced and rotated toward the paralyzed side—a condition that accounts for peculiar electrocardiographic readings which are wrongly interpreted as evidence of cardiac muscle disturbance as has been pointed out by Dr. John C. Thompson of Lincoln.

THE CLINICAL EFFECTS OF PHRENICOTOMY

Within a week or ten days the temperature, pulse, cough, sputum amount and general condition are often markedly improved. (Alexander). Sputum is not infrequently reduced from 150 to 200 cc to as low as 5 cc. Cough and expectoration are easier in spite of the diminished tidal air.

"In 40 cases Lange (278) of the Sauerbruch Clinic saw no case of aspiration pneumonia, stasis pneumonia or isolated progression of the tuberculous disease in the lower lobe following phrenicotomy. Twenty-three of these patients declared that expectoration was easier after phrenicotomy than before, 8 could detect no change, and not one complained of its being more difficult. Observations were recorded in 24 of Hauke's 205 patients; in 10 the amount of sputum was increased for a time after operation (owing to the relaxation or compression of the diseased lung); in 12 expectoration was easier and in none was it more difficult."



CASES SUITABLE FOR OPERATION.
I. LARGE CAVITY AT BASE, ANOTHER AT APEX RT. LUNG. LEFT CLEAR.
II. EXTENSIVE CAVERNOUS T. B. RT.—LEFT CLEAR. (AFTER COFFEY OPERATION).
III. LEFT CAVERNOUS TUBERCULOSIS—RIGHT CLEAR.

As for dyspnoea Goetze (176) states that less dyspnoea results from phrenicotomy than from the first inflation of air in pneumothorax. In my series of 12 cases none have experienced the slightest dyspnoea.

It is a striking observation that the patient with a suddenly induced paralysis of the diaphragm experiences no subjective symptoms except the spasmodic contraction at the instant of the section of the nerve. It is noteworthy that bilateral phrenictomy has been performed by Jehn, Sauerbruch, Lehmann, Dehler, Stern and Kroh without serious respiratory impairment.

INDICATIONS

Paralyzing the hemidiaphragm by evulsing the phrenic nerve is indicated in a wide variety of cases of pulmonary tuberculosis. The indications may be grouped in early and late cases.

1. Early Cases.

There is some controversy among thoracic surgeons regarding the preference of phrenicotomy or pneumothorax. Goetze vigorously argues for the use of phrenicotomy in the early unilateral cases that would ordinarily be treated by pneumothorax but the majority of authorities favor the use of pneumothorax. However, the following conditions on early cases are well managed by phrenicotomy.

1. Early cases not doing well on ordinary rest treatment but not sufficiently advanced for pneumothorax.
2. Rapidly fulminating cases with involvement chiefly unilateral.
3. Cases in which pneumothorax has been found impossible because of adhesions.
4. As an accessory to artificial pneumothorax treatment. First advocated by Alexander several years ago. He thought that it would lengthen the time between refils and decrease the chances of fluid.

2. Late Cases.

Unilateral cavernous tuberculosis furnishes the most frequent indication for phrenicotomy.

1. Cases of cavernous tuberculosis but not of such extent as to require thoracoplasty:

It was at first thought that basal lesions of the lung were best suited for phrenicotomy but Welles and others have found that good results are obtained in upper lobe lesions more often than when the cavities are at the base. The operation is now employed in all types of lesions.

2. As a preliminary to thoracoplasty.

Sauerbruch, Denk, and many other European surgeons stress the importance of doing a phrenicotomy preliminary to thoracoplasty to determine the ability of the opposite lung to carry the increased functional load without aggravation of lesions within itself.

3. Cases obviously needing thoracoplasty but are

poor risks with the possibility that phrenicotomy may prolong life, ease the symptoms and improve the situation sufficiently to permit a more radical procedure later.

Welles has briefly summarized his conclusions after an analysis of 271 cases as follows:

"Paralyzing the hemidiaphragm by evulsing or crushing the phrenic nerve is a simple procedure which is of distinct value in a wide variety of cases of pulmonary tuberculosis. Its value is fully as great in cases of apical lesions as in those in the lower lobe of the lung.

The operation gave beneficial results in approximately two-thirds of a series of 271 cases.

Less than 2 per cent of the patients seemed actually made worse, so that it is reasonably safe to assure them that no harm will come of the operation even if it fails to do good."

THE COFFEY OPERATION

The Coffey operation designed by Jay R. Coffey, M. D., of Portland, Oregon, to effect a more safe and effective removal of the first rib as a first step in a total thoracoplasty has been found to produce such marked collapse of the lung that it is often ample for many apical lesions and further operations may be unnecessary. The posterior approach to the first rib which is the usual one in a single or two stage thorocoplasty occasions great trauma to the shoulder and its muscular support; the exposure is small and deep and there is danger of injuring or cutting the subclavian artery as it arches over the first rib. The Coffey operation offers an anterior approach that is wide, gives a clear view of the first rib with all important structures under control. The phrenic nerve and long thoracic nerve of Bell may be and usually are cut to produce paralysis of the hemidiaphragm and the serratus anticus—thus further reducing the function of the lung.

The scalenus anticus and medius are also separated from its attachment to the first rib and a large segment of the rib removed. The first rib forms a protective cage for the apex of the lung and forms the support and the line of fixation for the entire side of the thorax.

Much more effective collapse of the lung is secured by the Coffey operation than by phrenicotomy alone and if more extensive thoracoplasty is later required the more difficult and dangerous part of the procedure has been previously completed by a simpler and safer route.

PNEUMOLYSIS (APICOLYSIS)

Pneumolysis or the separation of the lung from the chest wall to permit of partial collapse or a localized compression over a cavity is used either as an extrapleural operation when the line of separation is between the parietal pleura and the chest wall or it is intra-pleural in which the operation consists in the separation of partially adherent pleurae to permit a more effective collapse from pneumothorax.

To maintain the lung in a compressed state for a sufficient time some substance is placed in the cavity produced by the pneumolysis. A permanent fat graft has been used but at the present time a paraffin plumb is the usual fill employed.

Pneumolysis may be used concommittant with or subsequent to thoracoplasty.

Pneumolysis is a partial operation and is only occasionally indicated in preference to a complete thoracoplasty. Its chief indications as the sole operation are:

1. To check hemoptysis in a case having adherent pleurae that prevents the use of pneumothorax and with bad-risk conditions obviating thoracoplasty a pneumolysis may be done to check repeated hemorrhage.
2. As a final move to complete the closure of an almost healed cavity which is inactive but still producing bacillus-positive sputum.
3. As a partial measure to initiate improvement in cavernous tuberculosis too far advanced and with too much activity in the opposite lung to perform thoracoplasty.
4. As supplementary treatment to obtain a more complete collapse of cavities that have been insufficiently effected by thoracoplasty.

THORACOPLASTY

It has not been the intention to more than generalize on the surgical procedures that have proved serviceable in tuberculosis. The subject of thoracoplasty cannot be adequately discussed in such meager outline. The history of this procedure is interesting as one follows through the experimental clinical work of Brauer, Tredrich, Wilms. Sauerbruch and others with their earlier discouraging mortality but finally evolving the effective paravertebral thoracoplasty in a two or more stage procedure with its low primary mortality and its favorable results with surprisingly little postoperative deformity.

Thoracoplasty will, of course, be reserved for late advanced cases in which medical management, pneumothorax and phrenicotomy have failed to effect a cure. It must, therefore, be used in apparently hopeless cases. These procedures that had formerly been considered ill advised and meddlesome operation in hopelessly moribund cases have become through better knowledge of indications and improved technic, an established and standardized practice.

There is no longer any doubt that many tuberculous patients who are hopelessly incurable by medical means alone may be restored to health and useful occupation by surgical management.

The factors that determine indications and contraindications are still in a developmental period but this knowledge is constantly increasing.

Up to 1925 only 300 cases of pulmonary tuberculosis had been operated on in the United States exclusive of pneumothorax and only 17 surgeons had performed surgical compression. The December, 1929, volume of the *Archives of Surgery,* containing over 1700 pages of the Transactions of the American Association for Thoracic Surgery is a vivid testimonial to progress in this field.

The specialist in tuberculosis can no longer be a medical therapist only. He should be familiar with surgical indications. The profession as a whole should acquaint itself with the possibilities of surgical management and seek council with those who are making a thorough study of it.

If we are to attain to the degree of proficiency in the management of tuberculosis that has been shown to be possible we must approach this subject with a spirit of optimism. Alexander estimated that there are 30,000 cases of pulmonary tuberculosis in the United States who present suitable cases for surgical management and will die if not operated upon. The greatest need is the spirit of optimism by the medical profession which will enable the cases that require this type of treatment to obtain it. Better results will come from adoption of graded operations from multiple operations and from a proper selection of the type of operation to fit the needs of the particular case.

PREVENTION AND THERAPY OF PUEPERAL SEPSIS*

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The problem of puerperal sepsis is so complex that no single method, since the surgeon was taught to clean his hands properly by Semmelweis, has made any considerable impression on maternal mortality. So many factors, involving such a variety of approach enter into the process of reproduction, that it is only by reviewing the entire process, and analyzing each process that may affect the result adversely, that improvement can be affected.

Puerperal sepsis is the "night-mare" of every obstetrician. The family, the community and even his fellow physicians blame him for every case. Yet not one, who does obstetrics, is immune. In spite of the study and care, epidemics still occur as did only three years ago in the Sloane Hospital for Women, one of the finest manned and equipped maternity hospitals in the world and which was traced after over fifteen deaths to a nasal sinus infection in an interne. The insistance that *all* cases are due to examinations by the physician has been a great factor in proper consideration of other factors involved. Semmelweis gave us a correct solution for this problem, if we only follow his advice, yet the mortality has not declined an appreciable per cent. In spite of twenty years of rectal examination, no appreciable change has been made in the mortality.

The discovery of the tubercle bacillus by Koch raised great hope that tuberculosis could be wiped out by killing the bacilli and wiping out all sources of infection. Yet no progress was made until it was realized that it was not the process of killing the tubercle bacillus, which refused to be killed, but of learning to live with the organisms and to keep it subjugated. Rest, fresh air, sunlight, food were found to be the potent factors. Warfare on the organism was not stopped and is more intense today than ever but other factors were given their proper weight. Certain types of persons were found to be more liable to tuberculosis than others and before definite evidence of the disease could be demonstrated, they were instructed how they could build up their resistance to disease. The emphasis was on health building, not on disease prevention.

With this attitude and considering every obstetric patient a potential case of sepsis, we can arrive at a reasonable plan for prevention.

The first essential is a complete physical examination. Foci of infection, bleeding hemorrhoids and the infected cervix are factors in anaemia and consequent loss of resistance. Foci such as tonsils and teeth can be removed with safety during early pregnancy. Bleeding hemorrhoids can be treated very successfully by injections of sclerosing solutions. The infected cervix is a great reservoir of potential infection. Bruised and devitalized by the advancing head, it forms an ideal culture media.

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Schottmueller, on the basis of extensive bacteriological research in vaginal discharges, concludes that the majority of women should be classed as "bacillus carriers." To the old doctrine that "The dangers always arise from without" we must add that "The danger can arise from within". Doderlein for over thirty years defended the doctrine that the vaginal flora of the normal pregnant woman is harmless and belongs to the defensive mechanism. To the weight of his immense authority and similar teaching in our medical school we must lay some of the blame for not considering the importance of other factors.

Miller and his co-workers from Pittsburg have demonstrated conclusively the importance and the harmlessness of proper treatment of the cervix. For the past ten years, I have not hesitated to cauterize an infected cervix during pregnancy. I did not carry my cauterization as far as these men, but I will in the future. Many of the leading teachers do not subscribe to the theory of autogenous infection but would they enter the peritoneum through an infected wound on the abdomen? Certainly, it does not appear reasonable to permit a huge source of infection to remain in the birth canal when it can be eradicated without danger to the pregnancy.

Many multiparae, especially those where repeated pregnancies have occurred at short intervals show an anaemia without definite cause. These should be treated by diet, rest, iron and arsenic *secundem arte*. Underweight and overweight young women present a special problem. We know that over-weight and underweight predisposes to infection. During the period of prenatal care, the various factor involved in underweight such as anaemia, foci of infection and heredity, and over-weight can be studied and properly evaluated. We cannot change a mastiff into a greyhound but by sensible consideration of all factors, we can arrive at the proper weight for the given individual.

Rest, fresh air, sunlight, proper food,—this quadrad is all important in health building and for a pregnant woman assumes an added importance. The fad for sun-tan is bound to show a marked improvement in morbidity and mortality from infectious diseases. Adequate proteins, such as are found in milk, eggs, and dairy products, minerals and vitamins are of great importance. The necessity for adequate vitamins is recent knowledge and is incomplete. Green and Mellanby first called our attention to the occurrence of pyogenic infections found in animals deprived of vitamin A. The rats grew fairly normally but suddenly became ill and died in a very short time from pyogenic infection. If fed vitamin A early, the infection disappeared. They then tested this clinically on cases of puerperal sepsis with apparently excellent result. In twenty-two severe cases treated by ordinary methods, the mortality was ninety-two percent, while in eleven similar cases treated by large amounts of vitamin A the mortality rate was eighteeen per cent, the blood cultures in the latter group becoming negative with two weeks. Their observation led them to believe that vitamin A acts neither as a bactericidal agent or an antitoxin but acts by building up general body resistance. Mellanby is now using vitamin A in selected prenatal groups. The final results will be awaited with interest. Recent work by Moore showing that the yellow pigment carotene is converted into Vitamin A promises us an ample supply of this apparent anti-infectious vitamin. At the present time the best source is cod liver oil, eggs, milk, liver and leafy vegetables.

Having done our utmost in avoiding complications as toxaemia and hemorrhage and having built up her health and resistance by supervision of diet and habits of life, the crucial task arrives, namely the problem of avoiding infection before, during and after delivery. She should be instructed to allow nothing to enter the vagina for six week prior to the expected time. This includes the interdiction of tub-baths, intercourse and douches. Any examination by the physician should have the same precautions as during delivery. Vaginal and rectal examinations are usually intra-uterine examinations. As much damage can be done by pressing vaginal and cervical secretion into the uterus by pressure on the recto-vaginal septum as by vaginal examination. A rectal examination is no guarantee that you have not carried bacteria from the vagina into the uterus though vastly safer in the average than a vaginal examination. By palpation of the abdominal wall, the progress of labor can be determined and the delivery made without vaginal or rectal examinations. Manual dilatation of the cervix usually means tearing the cervix and is certain to be followed by a greater or lesser degree of sepsis. In fact, manual dilatation followed by forceps extraction is the usual history of severe cases of sepsis. For any vaginal examination or manipulation, nothing less than the *ultima thule* of asepsis and antisepsis suffices. The cleansing with soap and water of the vulva and the application of mercurochrome or hexyresorcinol solution to the vulva, vagina and cervix should be routine. There is no more excuse for omitting this procedure than for the surgeon to refuse to apply iodine to the skin before opening the abdomen.

Toxemia, prolonged labor, and hemorrhage, weaken a woman's resistance and makes her more susceptible to sepsis. This must be treated *secundem arte,* always realizing that any operative manipulation increases the liability to sepsis. The relief of pain and suffering and the combatting of fatigue are major problems and demand the most careful supervision and care.

The employment of mixed vaccines before delivery has had extensive trial in many large clinics. The results do not appear at this time to warrant their use. Specific antistreptococcus serum is on the market and occasionally gives a brilliant result. Scarlet fever anti-streptococcus serum also appears to be successful in combatting the toxaemia. In view of the diversity of organisms involved, one cannot expect a universally successful serum and brilliant results. Occasional brilliant results from the injection of streptococcus serum can be explained as a general stimulation of the reticulo-endothelial system such as occurs with any injection of foreign protein.

Surgery, I mention only to condemn. It has no place in the treatment. The curet and intrauterine douche always does enormous harm. Occasionally a pelvic abscess develops which can be opened through the vagina or rectum but which will usually rupture in time with equally good results. The diagnosis of an abscess that has not ruptured or shows definite fluctuation is usually wrong and considerable harm can be done by futile probing and exploration.

Specific therapy and surgery can thus be dismissed not as useless but not useful in all cases and we must fall back on treatment based on the symptoms and pathology.

The importance of securing firm contraction of the uterus cannot be over estimated. The sinuses in the wall of the uterus must be kept obliterated by adequate amounts of pituitary solution and ergot. Hofbauer has recently advised the injection of pituitary solution and glucose to stimulate the reticulo-endothelial system and bone marrow. It has been known for considerable time that small blood transfusions act as a powerful stimulant to the blood forming organs and in general to the reticuloendothelial system. Hofbauers work has proven that the administration of hypertonic glucose solution preceded by injection of pituitary solution is followed by a pronounced rise in the number of red blood cells, lymphocytes and platelets. This rise is maintained for a considerable period of time. The injection of pituitary solution 1 cc four times daily and 20 cc of 50 percent glucose solution once daily appears to be sufficient and to have equally as good effect as repeated small blood transfusions and without the danger of blood transfusion.

With these considerations in view we can now outline the general treatment applicable to the great majority of cases. The patient should be placed outdoors on a screened porch or a sun room but should be protected insofar as possible from extremes of heat and cold. Enough fluids so that at least one quart of light colored urine is passed, should be given either by mouth, rectally or by hypodermoclysis. Nourishment should be given every three hours including daily the yolk of four eggs and milk and orangeade sweetened with glucose. The high caloric diet for typhoid fever can well be followed with special emphasis on foods with high vitamin A value. The use of carotene as soon as commercially available is highly recommended.

Glucose by mouth and per rectum should be given until sugar shows in the urine. 20 cc of fifty per cent solution should be given intravenously daily. 20 cc to 50 cc of unmatched blood can be injected daily intra-muscularly. This can be secured from any donor preferably from someone who has had scarlet fever or erysipelas or other streptococcus infections. This has a marked stimulant effect, gives considerable quickly available proteins and iron and will not give a dangerous reaction.

In a severe case, especially those following hemorrhage and showing a profound anaemia, a blood transfusion of 1,000 cc whole blood is indicated and repeated as necessary. This should be given before the patient is moribound. In all surgical conditions, it is my opinion that blood transfusions are often delayed beyond the time when any benefit can be derived. Great care in matching blood is necessary and grouping of donor and recipient is not sufficient. The blood should be matched serum against corpuscles and visa-versa. The injection of whole blood is much to be preferred to the use of citrated blood except where hemorrhage only is the indication.

Rest and sleep are very important factors in recovery and can be secured by codeine or morphine. Temperature is controlled by ice cap and sponging. Quinine sulphate can be given for antipyretic and perhaps specific effect.

The patient should remain in bed three days after the temperature is normal and then gradually allowed more and more freedom. The convalescence is hastened by intramuscular injections of sterile milk 5 cc twice weekly and by diathermy treatments using a vaginal electrode. This period requires mental as well as physical and drug therapy. A trip to the mountains in summer or to warmer climate in winter acts as a powerful tonic. The hemoglobin is built up with proper therapy and diet. The tanning of the entire body by exposure to the sun adds enormously to the physical and mental well being. Surgery is not a short cut to recovery even though a large mass is found in the pelvis. Pelvic examination and manipulation of this mass usually causes the temperature to rise, showing that the infection is only held in check by nature, not destroyed and fatal peritonitis often follows surgical intervention. The stimulation of the natural forces of the body by foreign protein injection and by diathermy will aid nature in effecting a cure.

The solution thus lies in educating the people and ourselves to demand better and more careful attention to women during the childbearing period. The public must be educated to appreciate prenatal care and must be willing to pay adequate remuneration for the services rendered. Greater interest in obstetrical cases by members of the medical profession will lead to better prenantal supervision and hence less complications and less sepsis.

In 1843, Dr. Oliver Wendell Holmes wrote a paper on "The Contagiousness of Puerperal Fever." This paper should be read and reread by all members of the profession. It is true that it is a severe indictment of the medical profession, but I believe it is justified. I close with one paragraph from his essay:

"I have no wish to express any harsh feeling with regard to the painful subject which has come before us. If there are any so far excited by the story of these dreadful events that they ask for some word of indignant remonstrance to show that science does not turn the hearts of its followers into ice or stone, let me remind them that such words have been uttered by those who speak with an authority I could not claim. It is as a lesson rather than as a reproach that I call up the memory of these irreparable errors and wrongs. No tongue can tell the heart-breaking calamity they have caused; they have closed the eyes just opened upon a new world of love and happiness; they have bowed the strength of manhood into the dust; they have cast the helplessness of infancy into the stranger's arms, or bequeathed it, with less cruelty, the death of its dying parent. There is no tone deep enough for regret, and no voice loud enough for warning. The woman about to become a mother, or with her new-born infant upon her bosom, should be the object of trembling care and sympathy wherever she bears her tender burden or stretches her aching limbs. The very outcast of the streets has pity upon her sister in degradation when the seal of promised maternity is impressed upon her. The remorseless vengeance of the law, brought down upon its victim by a machinery as sure as destiny, is arrested in its fall at a word which reveals her transient claim for mercy. The solemn prayer of the liturgy singles out her sorrows from the multiplied trials of life, to plead for her in the hour of peril. God forbid that any member of the profession to which she trusts her life, doubly precious at that eventful period, should hazard it negligently, unadvisedly, or selfishly!"

SYMPATHETIC GANGLIONECTOMY IN THE TREATMENT OF VASCULAR DISEASES*

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The brilliant physiologic results obtained by the resection of the sympathetic ganglia have stimulated interest in numerous medical centers, until today it is felt that the treatment of vascular diseases have been revolutionized and there is a new ray of hope for this unfortunate group of individuals, who heretofore were faced with gangrene and amputation.

In addition to vasospastic disorder known as Raynaud's disease, there are numerous conditions of impaired circulation which are amenable to this form of treatment. However, it is important to distinguish between occlusive and vasospastic conditions, because only the latter type of cases that chiefly derive benefit from surgery of the sympathetic nervous system.

HISTORICAL SURVEY

Jaboulay, 1899, cut the nerves approaching an artery, and Higier, 1901, recommended tearing the nerve plexus around the femoral artery in cases of intermittent claudication. Leriche, who is credited with the establishment of periarterial sympathectomy, reported two cases of causalgia in median nerve injuries in which he resected the sheath of the brachial artery in 1917. Since that time he has reported a large series of cases with favorable results lasting from a few months to several years. Leriche favors periarterial sheath resection in all cases of vasospastic disorders such as Raynaud's, causalgia, trophic and traumatic ulcers, and believes there is an intramural sympathetic ganglion in the arterial wall in spite of the work of Kramer and Todd and Potts, who found the sympathetic innervation of the peripheral arteries corresponded to the musculocutaneous distribution of the spinal nerves. Ransom stated there are sensory fibers carrying impulses to the spinal cord through the white rami, and thus accounts for the partial or total relief from anginal pain when the stellate ganglion is removed.

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The operation of sympathetic ganglionectomy is not new, as Alexander performed a bilateral extirpation of the superior ganglia for epilepsy in 1889. Jonnesco, in 1896, divided the trunk above and below the middle cervical ganglion for epilepsy, and soon after repeated this operation in a case of exophthalmic goiter. Franck's discussion in 1898 lent new interest to the sympathetic system, when he considered angina pectoris was the result of an overflow of impulses reaching the cord via the stellate ganglion. In 1916 Jonnesco removed this ganglion for angina pectoris, and since that time a number of surgeons have repeated his operation with varying degrees of success. Hunter and Royle, 1924, reported beneficial results from ramisectomy in cases of spastic paraplegia, and at that time noted the operated extremities were warm, dry and pink.

Adson and Brown. utilizing this knowledge, applied it to Raynaud's disease, and in 1924 reported the first cases of lumbar sympathetic ganglionectomy and ramisectomy with brilliant results. Adson preferred the transabdominal approach because the operator sees the inconstant rami emerging from the first lumbar ganglion, which would be missed by the retroperitoneal approach. Brown's development of the vasomotor index has been a valuable contribution in reference to the proper selection of cases for operation. The anterior approach to the stellate ganglion met with failure more often than success, until Adson devised the posterior approach in 1928. Since that time many cases of vasospasm have been greatly benefitted by both lumbar and cervico-thoracic ganglionectomy and ramisectomy.

VASOSPASTIC CONDITIONS

Raynaud's disease is the classic vasospastic condition and is described as a bilateral symmetrical vasoconstriction of the hands and feet. Little has been added to Raynaud's original descriptions in 1862 and 1874 when he observed that there is a form of gangrene of the extremities without any evidence of vascular occlusion. This phenomenon varies in degree to such an extent that many cases of mild vasoconstriction are confused with Raynaud's disease. These patients complain of a coldness of the hands and feet, some blanching of one or more digits and a moderate amount of pain when exposed to the cold. Although there is no contraindication to surgery in these cases, it seems a very drastic procedure when relief may be obtained by the application of external heat, massage and the wearing of warmer clothes. A true Raynaud's disease is characterized by the presence of symmetric color changes in the extremities, either upper or lower. The knees, elbows, ears and tip of the nose may be involved in severe cases. The blanching of the skin is induced by exposure to the cold or emotional influences, and this is followed by cyanosis until the vasospasm subsides. The gangrene of Raynaud's disease is a dry gangrene occurring at the tips of the fingers or toes, with distortion of the growth of the nails, instead of complete gangrene of a digit as seen in the occlusive vascular disease.

Raynaud's disease is chiefly seen in women and few cases in men prove to be a pure vasoconstriction without at least some changes in the lumen of the artery. The surgical procedure carries no more risk than a laparotomy and the relief from pain is well worth that small risk. Immediately after operation the fingers or toes are free from pain and are warm, dry and pink. The trophic lesions soon heal and the nails are restored to normal growth. The Horner's syndrome which follows a cervico-thoracic sympathectomy consists of an absence of perspiration over the face, a constriction of the pupils and a narrowing of the palpebral fissure. The retinal veins are dilated and the capillaries of the mucous membrane of the nose are dilated with a subsequent production of an increase in mucous secretion. The skin is usually quite dry after operation, but massage with cocoa butter relieves this discomfort which is slight in comparison to the previous pain from vasoconstriction. The only complications that I have seen are two cases in which there was a postoperative venostasis. Neither of these patients complained of pain and the color was restored by elevation of the extremities and massage.

SCLERODERMA

Scleroderma is a disease of the skin characterized by pigmentary disorders, thickening, or atrophy and is frequently associated with sclerodactylia. The distribution is inconstant but is usually confined to the extremities, face, neck and chest, although severe cases involve the entire trunk. The muscles may be involved in this process and frequently there is limitation of joint movements. Not all cases of scleroderma are caused by a vasoconstriction, but many patients in this group give a history of cold, sweaty, cyanotic hands and feet preceding the skin changes. This type of cases responds very nicely to a sympathetic ganglionectomy and ramisectomy as the extremities are warm, dry, free from pain and there is an immediate loosening of the tight skin.

CHRONIC ARTHRITIS

There is a group of young adults who have painful, swollen, tender joints, limited motion, and cold, clammy extremities. External heat gives a moderate degree of relief, and when typhoid vaccine is administered intravenously there is an increase of temperature in the extremities associated with a temporary relief from pain. A permanent result is obtained in suitable cases by sympathetic ganglionectomy, and thus a new chapter has been written for the relief of pain and return of function in this type of arthritis.

CAUSALGIA

Causalgia is a painful condition following injury to peripheral nerves, chiefly the ulnar, median and sciatic nerves, and is characterized by pain, glossy, red or mottled red and white skin, edema and limited joint motion. Periarterial sympathetic ganglionectomy has offered relief in some cases and sympathetic ganglionectomy has been rewarded with success in a few instances. However, the series of reported cases are too small to draw any definite conclusions, and it must be remembered that the psychic and compensation element plays an important role in this type of cases.

ERYTHROMELALGIA

Erythromelalgia is characterized by intermittent vasodilatation of the arteries and veins of the extremities, associated with redness of the skin and a burning sensation of the hands and feet. This syndrome is mentioned because sympathetic ganglionectomy is contraindicated and relief from this condition is obtained by immersing the parts in cold water and elevation of the limb.

OCCLUSIVE CONDITIONS

The two main types of occlusive vascular disease of the extremities are thrombo-angiitis obliterans and arterial sclerosis. The benefits of sympathectomy in these cases are obtained by the relief of superimposed vasoconstriction of the collateral vessels.

THROMBO-ANGIITIS OBLITERANS

This condition is due to an occlusion of the main arterial trunk to an extremity associated with varying degrees of color changes, pain and gangrene of one or more digits. Buerger's original description stated that this disease was most common in Hebrews, and that cigarette smoking was a definite contributing factor. Subsequent observations in various medical centers show that no race is immune and that, although most patients are cigarette smokers, this condition is seen in nonsmokers. The usual course of this disease is slow and may only be manifested by intermittent claudication and coldness of the extremities. If the patient has the resources to take rest in bed, prolonged vaccine therapy and move to a warm climate until canalization takes place in the occluded artery, it is well to follow this conservative plan of therapy. However, the average individual is not financially able to follow such a procedure, and if there is evidence of vasospasm in the collateral circulation sympathetic ganglionectomy offers the quickest and surest form of relief. The most satisfactory cases are the earlier ones in which the vascular index shows an adequate collateral circulation. Even advanced cases, with a suitable index, can be helped by operation and many times an amputation can be made at a lower level with a saving of the other extremity.

Thrombo-angiitis occurs chiefly in men, and care should be taken in confusing early cases with Raynaud's disease because of a palpable vessel as Brown and Allen have called attention to errors in diagnosis when pulsations were still present in the distal arteries.

ARTERIAL SCLEROSIS

Occlusive conditions of the arteries of the legs in patients in the later decades of life are different forms of vascular disease. These patients are in poor general condition, and Horton's studies have demonstrated an inadequate collateral circulation. The vasomotor index in this type shows clearly that a sympathectomy could do little more than relieve pain.

VASCULAR INDEX

The success of sympathectomy depends entirely upon two factors, the proper selection of cases and the thorough interruption of all the vasoconstrictor fibers.

Adson and Brown's vasomotor index is an accurate means of determining the probable results of operation and is based upon the ability to produce temporary vasodilatation before surgery. Although the volume of blood in the peripheral arteries cannot be measured, it can be determined relatively by an increase in surface temperature and it is this principle that is employed in the "fever" test. The temperature of the mouth and extremities are taken and then 25,000,000 to 75,000,000 dead bacilli in typhoid vaccine, according to the age of the patient, are given intravenously. The mouth and surface temperature are taken every hour during the course of the fever, and it will be observed that the mouth temperature rises 2° or 3° whereas the skin temperature increases 9° to 12° or three or four times the rise in mouth temperature. This rise in the temperature of the digits indicates that the peripheral arteries have been opened by a relaxation of the vasomotor control and that more blood is flowing to the extremities. It is futile to operate unless the rise in surface temperature is double the rise in mouth temperature, because in cases with so little increase there is definite evidence that the vessels are structurally altered and incapable of further dilatation. The administration of typhoid vaccine is occasionally accompanied by a severe systemic reaction, and because of this unpleasant effect White has added a refinement in technique by devising an injection method for determining the vasomotor relaxation.

His method consists of injecting the sympathetic ganglia with procaine and his results show even a greater increase in surface temperature than with the vaccine. The technique of injection is not difficult and has the advantage that there is no systemic reaction

SURGICAL PROCEDURE

The surgical procedure consists in thoroughly interrupting all the vasomotor fibers to arteries of the extremity to be treated. The impulses are carried in the cord and emerge as white rami from the thoracicolumbar section to end in synaptic relation with the attendant sympathetic ganglia and from these ganglia continue to the spinal nerve as gray rami. It is necessary to remove the inferior cervical and first thoracic ganglia which are usually fused and known as the stellate ganglion, the second thoracic ganglion and the gray rami communicating with the first and second thoracic nerves to satisfactorily accomplish vasodilatation in an upper extremity. The second, third and fourth lumbar ganglia with all their rami, including stray fibers from the first lumbar ganglion must be resected to produce the desired result in a lower extremity.

The details of operative technique have been clearly described and illustrated by Adson, and it seems unnecessary to repeat them at this time.

SUMMARY

Vasospasm plays an important role in many cases of impaired circulation, and the removal of factors causing this constriction has given this group of cases decided relief and a markedly better prognosis.

It is felt that sympathetic ganglionectomy and ramisectomy are justifiable procedures in the treatment of such conditions as Raynaud's disease, thromboangiitis obliterans, causalgia, arthritis and scleroderma when palliative methods fail. There is no doubt but that further study of the sympathetic nervous system will prove that its physiological importance is vastly more significant than has hitherto been realized, and that perhaps many conditions in the future will be remedied by a better knowledge of the system.

BIBLIOGRAPHY

1. Adson, A. W., and Brown, G. E.: The Treatment of Raynaud's Disease by Resection of the Upper Thoracic and Lumbar Sympathetic Ganglia and Trunks. Surg., Gyn., and Obst., 1929, xlviii, 577-603.
2. Adson, A. W., and Brown, G. E.: The Treatment of Raynaud's Disease of the Upper Extremities: Successful Treatment by Resection of the Sympathetic, Cervico-thoracic and Second Thoracic Ganglions, and the Intervening Trunk. Jour. Am. Med. Assn., 1929, 92, 444-449.
3. Adson, A. W., and Rowntree, L. G.: Bilateral Lumbar Sympathetic Ganglionectomy for Polyarthritis of the Lower Extremities. Jour. Am. Med. Assn., 1927, 88, 694-696.
4. Alexander: 1899. Quoted by Kuntz.
5. Allen, V. E., and Brown, G. E.: Thrombo-angiitis Obliterans: A Clinical Study of 200 Cases. I. Treatment and Prognosis. Ann. Int. Med., 1928, 1, 550-557.
6. Brown, G. E.: Treatment of Peripheral Vascular Disturbances of Extremities. Jour. Am. Med. Assn., 1926, 87, 379-383.
7. Brown, G. E., and Adson, A. W.: Calorimetric Studies of the Extremities Following Lumbar Sympathetic Ramisection and Ganglionectomy. Am. Jour. Med. Scien., 1925, 170, 232-240.
8. Buerger, Leo: Thrombo-angiitis Obliterans; A Study of the Vascular Lesions Leading to Presenile Spontaneous Gangrene. Am. Jour. Am. Scien., 1908, 136, 567-580.
9. Higier: 1901. Quoted by Kuntz.
10. Horton, B. T.: 1930. Personal Communication.
11. Hunter, J. I.: The Influence of the Sympathetic

Nervous System in the Genesis of the Rigidity of Striated Muscle in Spastic Paralysis. Surg., Gyn., and Obst., 39, 721-743, 1924.

12. Jaboulay: 1899. Quoted by Leriche.

13. Jonnesco: Zentralbl, f, chir. 1897.

14. Jonnesco, I.: Traitment chirurgical de l'angine de poitrene par la resection du sympathique cervicothoracique. Presse Med., 1921, 29, 193.

15. Kramer, J. G., and Todd, T. W.: The Distribution of Nerves to Arteries of Arm With Discussion of Clinical Value of Results. Anat. Rec., 1914, 8, 243-254.

16. Kuntz, A.: Distribution of the Sympathetic Rami to the Brachial Plexus; Its Relation to Sympathectomy Affecting the Upper Extremity. Arch. Surg., 1927, 15, 871-877.

17. Kuntz, A.: Autonomic Nervous System, 1929, Lea and Febiger, Phila.

18. Leriche, R.: De l' enlongation et de la section des nerfs perivascularies dans certains syndrome douloureux d'orgine arterielle et dans quelques troubles trophiques. Lyon, chir., 1913, 10, 378-382.

19. Leriche, R., and Fontaine, R.: Experimental and Clinical Contribution to the Question on the Innervation of the Vessels. Surg., Gyn., and Obst., 1928, 47, 631-643.

20. Leriche, R., and Heitz, J.: Resultats de la Sympathectomic periarterielle dans la traitment des troubles nerveux post-traumatiques d'orde reflexe, Lyon, chir., 1917, 14, 754-792.

21. Potts, L. W.: The Distribution of Nerves to the Arteries of the Leg. Anat. Anz., 1914-1915, 47, 138-143.

22. Ransom, S. W.: Anatomy of the Sympathetic Nervous System With Reference to Sympathectomy and Ramisection. Jour. Am. Med. Assn., 1926, 86, 1886-1890.

23. Raynaud, M.: Local Asphyxia, London New Sydenham Society, 1888, 1-150.

24. Royle, N. D.: A New Operative Procedure in the Treatment of Spastic Paralysis and Its Experimental Basis. Med. Jour. Australia, 1924, Vol. 77.

25. Royle, N. D.: The Treatment of Spastic Paralysis by Sympathetic Ramisection. Surg., Gyn., and Obst., 1924, 39, 701-720.

26. Royle, N. D.: The Surgical Treatment of Raynaud's Disease and Similar Conditions. Supplement to Med. Jour. Australia, Nov. 5, 1927, 341-343.

27. White, J. C.: Diagnostic Blocking of Sympathetic Nerves to Extremities With Procaine. Jour. Am. Med. Assn., 1930, 94, 1382-1388.

OTOLARYNGOLOGY AND THE GENERAL PRACTITIONER*

L. C. KNIGHT, M. D.
Lincoln, Nebraska

In recent years much of the progress that has been made in medicine has been made in the specialties. Much of this work has been reported in terms of a technical nature and which are not readily understandable by the average physician. Many of these men make a heroic attempt to keep up with a part of the work that is being done, but the verbosity and technicalities of many of the writers dampen any ardor that they may have in this respect. It is, therefore, important that some of these things should be made as clear as possible and told in a few words.

Among some men in general practice the idea seems to prevail that the specialist thinks that the work should be divided among the specialists and that the general physician should confine his activities to sending the specialists cases. I do not think this is very near the truth, for it has been said, and I think truthfully, that the average practitioner is able to handle 90% of the cases that come to him. The other ten per cent are unusual or difficult cases and should rightfully go to the specialist who has made a special study of some narrow phase of medicine. It is not hard to see what would happen if the greater part of the cases go to the specialist. It would mean that the specialist would increase in numbers while the general physician would disappear and this is just what we want to avoid for the people can get along a great deal better without the specialist than they can the general physician.

It is true that about all of the teaching in our medical schools is done by specialists and it would seem at first glance that the purpose was to turn out specialists, but such is not the case. These men are employed because they have applied rather intensive study to a narrow subject as compared to the whole subject of medicine, and it is thought that they are thus prepared to give the student the high lights of their subject. The one aim of the medical school should be to turn out men qualified to practice general medicine, and I am glad to see the system, formerly in use, in which large groups of students were asked to sit in an amphitheatre and watch a surgical operation, passing, for little was learned and nothing seen. Now we have the diagnostic clinics, and if the student is asked to attend a surgical clinic he is there with a small group that can be placed so that they actually see what is being done. He is, however, not supposed to learn surgical technic, but is supposed to learn something in a general way about surgery and surgical pathology.

Most men that have given the subject some study now agree that the recent graduate of medicine is not prepared to do surgery any more than he is prepared to do the operations of the so-called surgical specialties. Much harmful surgery has been done by men that are fairly well equipped with surgical technic, but are poorly equipped with diagnostic skill. These men are frequently willing and anxious to operate when but little consideration has been given the indications for the operation. It is comparatively easy to learn the technic of operations, and it is no uncommon thing to hear those that have witnessed an operation say that the surgeon was a good operator. What they have in mind is that the surgeon was deft with his hands and quick and neat with his work. This sort of thing, I am sorry to say, seems to constitute in some minds the requirements of a surgeon, and little thought or consideration is given the much more important but less spectacular diagnostic side of the question. Nature has a kindly way of healing her wounds and many a bunglesome operator's work is covered by this kindly influence so long as the diagnosis is correct, but let a surgeon remove a gallbladder when it is the appendix that is at fault and the patient will continue to suffer and the doctor's reputation is not helped. In the field of otolaryngology it is no uncommon thing to see the general surgeon attempt to do operations for which he has had little training. Especially is this true concerning the lowly tonsil operation that seems so easy to most physicians. It seems to be commonly thought that the removal of the tonsils is a very easy and simple thing and fraught with but little danger, but let us see if this is true. How many cases can you recall that have gone wrong or have had some sort of a bad result from a tonsil operation? I have been fortunate in this respect, but I have known of several that occurred in the practice of very competent men. One of these was a young physician that died as the operation was beginning. A young man died in Lincoln as a result of a hemorrhage from a tonsil operation performed in 1928. As to the simplicity of the operation and technic involved I have only to tell you that I see very few throats in the course of a year that are ragged and mutilated from a tonsil operation that cannot be laid at the door of a surgeon who attempted something beyond his training.

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*Read before the Clay County Medical Society, March 19, 1930, and Thayer County Medical Society, April 10, 1930.

The general practitioner should be conversant with a few of the problems relating to hearing and to defects in hearing, as well as a few things abouts disturbances of the vestibular mechanism which often results in vertigo. He should know, as I have pointed out in another paper, the types of deafness that are helped by electrical and other devices for that purpose. The functional testing in these cases, however, should be turned over to the otolaryngologist. It is in the cases of suppurating ear disease that the general practitioner is most concerned for it is to him that the parents most often apply for help, and for treatment. These cases are often passed in small children unnoticed as there may be no complaint of pain in the ear. An inspection may show a red, bulging ear drum that is not hard to recognize. When this condition exists it is important that there should be drainage and whether this occurs through a spontaneous opening or whether it comes from the knife of the attendant is immaterial so long as the drainage is adequate. It is of further importance that the drainage should be established early and not allowed to run on for the mastoid may be involved to such an extent and by such a course that operation may be indicated.

Many small nursing children, too small to complain of pain, have otitis media, and this may be the explanation of some of the obscure fevers that children have and for which no explanation can be made. Together with the temperature there may be diarrhoea and the food is often thought to be the cause of the trouble, but when the child is breast fed it is hard to explain on that ground. The infants will frequently remain quiet, although evidently in pain and quite ill, until they are fed, and then they will scream with pain. The reason for this is that the swallowing motion pulls upon the eustachian tube and exerts some effect on the acutely inflamed inner ear.

In connection with acute mastoiditis there are a few things that every practitioner should have in mind, and one of the most important of these is that in most cases of acute otitis media there is some involvement of the mastoid cells. In examining a case of this kind there will be found none of the characteristic symptoms but the x-ray will show the presence of pus in the mastoid cells. It is well to remember that the presence of pain and tenderness over the mastoid process, and also the presence of pus as shown by the skiagraph are not necessarily indications for prompt surgical interference especially during the first few days of the illness. Unless there is persistent pain and high temperature, together with the above mentioned symptoms, it is better to wait, even if it is perfectly clear that there is a mastoiditis. In the first place most of these cases will get well if left alone, and secondly there should be some time allowed for softening to take place in the bone and for the abscess to become walled off from the surrounding tissues before operation is undertaken. If this plan is carried out there is much less likely to develop postoperative extensions of the infection into the surrounding structures.

In chronic otitis media there is often a question as to what to do. There may be a perforation and a profuse discharge and the patient and the physician are greatly worried as to the proper course to pursue. It is likely that treatment has been carried on for some time and the discharge is not decreasing. Operation seems to offer the only hope. The well trained otologist knows from the character of the discharge whether it is a dangerous one or not. It is always well to bear in mind that these cases are seldom dangerous in-so-far as the risk of serious complications are concerned. If the case falls into the most common group, operation is not necessary. It is the uncommon case that has to face the danger of extension to the sinus and causing sinus thrombosis and other serious complications such as labyrinthitis, meningitis and brain abscess. How can the diagnosis be made? It all depends on whether the process is limited to the mucous membrane lining the middle ear cavity or whether there is involvement of the bone. If tests show there is bone invasion the proper course to pursue is to operate. There are many operations done on the mastoid that might be avoided if the above was borne constantly in mind. One who is accustomed to these problems has little trouble in determining when the process is invading the bone from the character of the discharge, the location of the perforation and the presence of a cholesteatoma. The discharge is usually of a very offensive nature and is not helped by local cleansing measures. The perforation in these cases is usually marginal and occupies a position in the upper posterior segment. These with the cholesteatoma all point to the diagnosis of bone invasion. Even among these there is not always the necessity of operation, but it is in this type of case that we feel that surgery is justified.

For many years the nose has been subjected to many operative procedures that were often but poorly justified. Owing to the accessibility of the structures and the low mortality following operations in the nose together with the frequent occurrence of disease has made this organ one of the most frequent to be subjected to surgical treatment. Many physicians have gone to some city for a few weeks and have there watched a few operations and thus secured a smattering of knowledge of the technic of operations in the nose. They are not willing or do not have the time to go into the subject fully and spend the time that is necessary to learn the diagnostic side of the work and the results that are to come from these operations, for this may require months or years, and so they go out and in many instances perform the operations of which they have learned the technic in a rather indiscriminate manner and in many cases leave the patient worse off than when he was first seen. This is one of the reasons that nasal surgery is in disrepute. Every physician in this specialty sees many such cases, and the pity of it is that many of them have been operated upon by so-called specialists. It is for this reason that we do not feel it wise to teach interns the technic of operations unless they are willing to put in sufficient time to learn the diagnostic side of the work. Deflections of the septum are one of the favorite reasons for operations. Usually a small piece of cartilage is removed from the anterior part of the septum and the operation concluded. This seldom has a beneficial effect as the obstruction that comes from deviated septa are not those in the anterior part of the nose. Unless the trouble is of such a nature that it will block respiration and be noticed by the patient or cause poor drainage of a sinus there should be no surgery attempted. Sinus operations are often attempted for the cure of headache. It is true that headache does come at times from sinus infection, and it is also true that headache comes perhaps ten times as often from other causes so that it behooves us to be careful of advice given a patient concerning headache.

I said a moment ago that the nose was one of the most frequent victims of surgery, but I want to return to the tonsil again and state that it perhaps is the organ that most frequently feels the sting of the surgeon's knife. Many times it is assumed that the question of removal of the tonsil is a simple one. It is true that if the operation is carefully and skillfully done the patient never misses them afterward, but he is subjected to a surgical procedure that is not pleasant and is in a measure dangerous, and so it seems that this question should be given considerable thought before we advise a tonsillectomy. Now what are the indications? It is generally recognized that tonsils that are frequently acutely inflamed are dangerous and a menace and should be removed, even though these attacks have produced no systemic disturbances. This type of tonsil between attacks may appear normal, but the history of frequent attacks is sufficient evidence to warrant operation. Occasionally a patient may have a severe attack of tonsillitis and it might seem that this was sufficient to warrant removal, but unless there is some evidence of systemic infection resulting or the tonsils themselves show signs of being the seat of infection there is no reason for operation. Tonsils are frequently seen that are the seat of chronic infection and where there is no history of acute infections. Cheesy plugs that are frequently seen in the tonsils of adults have no particular significance as they are not of the same material as pus, and unless they are causing some local disturbance they should not be removed.

In closing I would like to say that the decision as to the removal of tonsils should be left to the specialist if there is a history of repeated attacks of inflammation or if there is sufficient local evidence, and to the internist or physician in charge of the patient if there is some systemic infection.

SOME EXPERIENCES IN PORTO RICO

R. S. WYCOFF, M. D.,
Lexington, Nebr.

Probably most of us do some peculiar things now and then, but we seldom think of it unless someone draws our attention to it. But just try to explain the "why" of some procedure to someone who is fairly sure that you must be at least partly crazy because you are not of his race, and who in addition does not have education enough to grasp the idea when you get it across,—after that you will begin to wonder what is what, and why. During our stay in Porto Rico we discovered many forms of treatment that seemed to us to be very peculiar, to say the least. On the other hand, I feel sure that some of my own methods seemed just as odd to them.

One day a woman was brought in from one of the neighboring villages with a severe pelvic infection. She had a retained placenta—in fact, it had been retained for about two weeks, and she had developed a marked toxemia.

Now it is the custom there among all but the wealthy classes for women in confinement to be attended by a midwife. These are licensed, but the necessary qualifications are very meager.

In getting the history, I found that this woman had been attended by a midwife as usual. When the placenta had failed to come away, she had used what was to me an entirely "new" technique in her efforts to empty the uterus. Her first step was to pack the vagina full of tobacco leaves. Since this failed to produce the desired result, she removed it the next day and repacked with ashes from the pile which had accumulated near the house. This ash pile in all probability was near the barn, too, and since there are few privies in Porto Rico, it may easily have been doubly contaminated.

Strange to say, the second attempt also failed to produce relief, so the next day the ashes were removed, and the vaginal tract was refilled again, this time with nice red clay from the canefield nearby. Nor did this produce any definite effect, except that the patient developed the infection mentioned earlier. It was beyond the understanding of the family why she should have been visited by such a severe illness. To us the surprising thing was that she recovered at all.

The sister of one of our student nurses was to be confined at home (by a midwife), and as they lived near the hospital, they asked me to come in after the delivery and see that everything was O. K. I arrived just after the baby was delivered, and found the midwife boiling up some water to use in washing the mother. In order to impress me with her cleanliness, she drew my attention to the fact that she was boiling the water in the family dishpan, which was really clean. Then when it was cooled sufficiently to use, she strained it through a used dishtowel which had been lying on the table, into an unboiled washpan.

As our work was practically limited to the hospital, we did not see many patients in their homes, and so missed many opportunities for observing the customs that would have cropped out more easily in familiar surroundings. Dr. Brice, a friend of ours, practicing in the village of Humacao, told me the following incident which I believe is enough out of the ordinary to bear repeating.

He had been up in the hills one day to see a patient, and on his return was letting the saddle horse choose his own gait, when he was hailed from a wayside cabin by an old woman who asked him to come in and see a mother and her newborn babe. He did so, and after examining the mother and delivering the placenta, found that the old lady had left the room with the baby. He inquired about it, and the mother replied that the women were washing the baby in the other room. Thereupon he stepped through the doorway, and found the old woman with the baby in her lap, washing it with a rag which she dipped in a basin of liquid at her side. She was surrounded by several old women who were squatting in a semicircle on the floor. Presently the wash-water began to run low, when one of the old women took the basin, passed it under her dress, and in a few moments returned it with a fresh supply of washing fluid. This was repeated several times until the child was "cleansed".

Begging is much more common in all countries that are characterized by the contrasting extremes of great wealth and abject poverty. This we found to be true in Porto Rico, where the beggars are much better-organized than are the physicians in this country. We were much amused when we found that Wednesday was beggar's day in our village, and that the only way for the residents to keep away from them was to lock the gate during the entire day. One day an American, who was assisting in the construction of a new wing at the hospital, came home from San Juan with a new story which he had seen happen. He had been sitting, talking with a business man in San Juan, when a begging woman entered and asked for a gift. He promptly pulled a five-cent piece out of his pocket and handed it to her with the statement that it was the smallest he had, and that he wanted his change. She took it, very solemnly counted out four cents change and went on her way rejoicing.

Occasionally beggars came to the hospital, and some of them even carried signed statements (usually from the mayor or some other village official of their home town) to the effect that anyone who helped this poor unfortunate would be doing a most praiseworthy act. At one time a man came to the clinic bearing such a paper, and asked me for a liberal cash contribution, saying that he was unable to work because of a large sore on his leg, and he very proudly proved the truth of his statement by exhibiting an ulcer about two inches in diameter on his shin. I replied as usual that I never gave to beggers. Just what it was that prompted me to go on and say that while I could not give him money, I would be glad to heal up the sore on his leg free of charge, I do not know; but judging by the effect it produced, the patient probably felt that the Devil himself had been at the bottom of it. Anyway, he held both hands up in the air with a look of horror on his face, and replied excitedly: "Oh no. Why, I make my living that way". Probably the wound was self-inflicted.

We held a daily clinic at the hospital, to which the ambulant patients came—sometimes a hundred or more in a day. And those who could not walk were carried there in hammocks slung on bamboo poles, and supported on the shoulders of men who carried them in relays. One evening about five o'clock a young mulatto came in and asked me to give him some medicine "for his mother's shoulder". A little questioning developed the idea that he believed the shoulder was dislocated, and a little further along he dropped the remark that it had happened three or four months before. I advised him to bring her to the clinic, which they did a few days later. The x-ray showed an old dislocation of the shoulder with no fracture.

This patient was a slender, fair-haired, blue-eyed woman, rather taller than the average, while the father was not over five feet in height, fat, and his skin was a shiny ebony. After finishing the examination, I advised them that the only thing we could do would be to give her an anesthetic and attempt reduction, but that because of the long time which had elapsed since the injury it would probably be necessary to open the joint in order to get the best result. They asked for a little time to think it over, and retired to the open porch on which the patients usually waited. In about twenty minutes the old gentlemen returned and informed me that they had decided to try a little liniment first and see what that would do. He was greatly surprised when I told him that he would get no liniment from me, and did not hesitate to say so. I explained then that I knew the liniment would do no good, but that if I gave it to him he would then say that the medicine was no good,—and I didn't want him saying that. After a little further delay to think it over still more, the wife decided to stay and was operated on the next day. She made a nice recovery.

I have never forgotten the feeling that went through me one day after I had begun to understand some of the Spanish, when I asked a patient if she knew what was the cause of the recent death of her little boy. Her answer was "mal del ojo", which means literally the Evil Eye. It meant that she believed that someone who possessed the "Evil Eye" had cast a spell on the child, with fatal result. I heard the same answer many times in the following months.

Do you remember the old nursery rhyme about Jack and Jill—sure, I knew you would—well, you remember that Jack had his head wrapped up in vinegar and brown paper at the finish. I thought of it one day when a man came to the clinic to have an infected insect bite dressed. He had a thick layer of heavy manila paper over the wound. this was surmounted by a rag carefully wrapped over it, and the whole thing was thoroughly saturated with the "vinagre" which is in common use there. Another very common form of poultice among the poorer people is made of several herbs, cooked together and applied hot, and the whole covered with green banana leaves. Very often, too, the poultice consists of steeped or soaked tobacco leaves covered with a piece of green banana leaf, and the whole bound firmly in place. Not such a bad idea at that, and probably preferable to the quid of chewed tobacco which we still occasionally encounter in this country.

In spite of all the difficulties there are many compensations. Patients who have been helped never forget those who helped them, and will go to what you and I would consider extreme limits to show appreciation. And some of the truest friends a man ever had are those whom I still remember and occasionally hear from in "el pais el mejor del mundo".

COUNCILOR ANNUAL MEETING

JANUARY 12, 1931

The annual meeting of the Councilors was held at the Omaha Athletic Club, January 12, 1931, at 6:30 p. m. The meeting was called to order by Dr. Selby. The following members of the Council were present: Drs. Overgaard, Lehnhoff, Boyer, Cook, Nielsen. Tornholm, Potter, Rork, Selby, Cooper, President Hohlen and President-elect Stark. In addition to these the following guests were also present: Drs. Fouts and Secretary Adams and the Journal Committee consisting of Drs. Bailey and Long. Dr. Stokes, newly elected regent, Mr. J. Dillard Hall of the U. S. F. & G. Company and Mr. Gene Huse, publisher of the Journal, were also guests.

Dr. L. W. Rork was elected president and Dr. Overgaard re-elected secretary for the ensuing year. The regular order of business was then taken up.

Mation was made that the secretary, Dr. Overgaard, write a letter of condolence to Drs. Bryson and Douglas as they were unable to appear at the meeting. Seconded and carried.

Dr. Overgaard read the secretary's report. Motion made that this report be accepted and published in the Journal. Seconded and carried.

The financial statements were read by Dr. Overgaard. It was moved that these statements be accepted and turned over to the auditing committee, and that they be published in the Journal. Seconded and carried. An auditing committee consisting of Drs. Tornholm, Cooper and Boyer was appointed by Dr. Rork.

The report of the Committee on Medical Education was read. Motion made that this report be accepted and placed on file. Seconded and carried.

The report of the Sub-Committee to the Legislative Committee was read. Motion made that this report be accepted and placed on file. Seconded and carried.

Dr. Bailey gave a verbal report of the Legislative Committee. Motion made that this report be accepted and that the Council extend a vote of thanks to the Legislative Committee for their untiring efforts and that this vote be placed on record as such. Seconded and carried.

Report of the Defense Committee read by Dr. Fouts. Motion made that the report of the Defense Committee be accepted and that this committee be complimented and the report placed on file. Seconded and carried.

A verbal report of the Insurance Committee was given by Dr. Selby followed by discussion and report by Mr. Dillard Hall of the U. S. F. & G. Company. Motion made that Dr. Selby's and Mr. Hall's report be accepted. Seconded and carried.

Dr. Selby made the following motion: That a questionnaire covering mal-practice be sent out to members of the Association from the office of the Secretary over the signature of the Medical Legal Defense Committee and that Dr. Fouts appear before the general session at the next meeting with a report of this questionnaire. Seconded and carried.

Motion made that the Council extend a vote of thanks to Mr. Hall for appearing at this meeting at their request. Seconded and carried.

Report from the Journal Committee read by Dr. Long. Motion made that this report be accepted and published in the Journal. Seconded and carried.

Dr. Overgaard gave a verbal report of the Student Loan Committee. Motion made that this report be accepted. Seconded and carried.

Motion made that the meeting be adjourned temporarily until the auditing committee had audited the financial report. Seconded and carried.

Meeting called to order. The auditing committee reported that it found the secretary-treasurer's report correct. Moved that the report of the auditing committee be accepted. Seconded and carried.

Motion made that the meeting adjourn. Seconded and carried.

SECRETARY'S REPORT

The Nebraska State Medical Association ended the year 1930 with a membership of 1185, showing a decrease of 14 over the year 1929. During this year 104 members became delinquent and 21 members were reinstated, 71 new members were obtained. For the last three years the membership has shown a decrease each year of 8 to 10 members. The secretary finds that other states are having the same difficulty. Representatives of other states, when asked their opinion about this, give as the reason the general social unrest and added to it this last year the financial depression. The condition also seems to exist in other organizations. Our difficulty being only part of a general situation.

In Nebraska this is aggravated by having so many sparsely settled counties, causing members to be widely separated. In these districts there is also complaint about the amount of annual dues.

However, your secretary was furnished a much better list of eligible non-members during the year. He was able to send out about two hundred fifty letters to these non-members and has heard from several of them already.

During the year a new county society was formed in the northwest part of the state, the Northwest Nebraska County Medical Society, with Chadron as its central point.

The annual meeting held at Lincoln was up to the average of our meetings. The program seemed to please those in attendance and the Program Committee was complimented by a number of those present.

The Public Activities Committee, with its State Exhibit and its Health Week, the Defense Committee and the Journal Committee have all carried on their work in their usual excellent manner as will be learned from their reports.

It being an off year the Committee on Public Policy and Legislation and the Campaign Committee were not as busy as usual. Due to the resignation of Dr. Oliver Everett as chairman, President Hohlen has appointed Dr. J. A. Merideth acting chairman of the Campaign Committee. Under the instruction of Dr. Hohlen the affairs of this committee were put in excellent shape in very short time and it is now ready to function in its usual excellent manner.

On the whole all things considered the secretary feels that the year 1930 has been a good year and believes that 1931 will be a better one.

—Dr. R. B. Adams, Secretary.

REPORT OF THE COMMITTEE ON JOURNAL AND PUBLICATION FOR 1930

Exactly five hundred pages of reading matter were published in the Nebraska State Medical Journal during 1930.

The amount of reading matter published and the number of illustrations published in the Journal during the past year appears to the editor to have been ideal for a state medical journal.

We are reminded that we have spent a little more than our direct income. The financial statement shows expenditures over income of $336.92, although we still have cash on hand amounting to $433.03. The amount expended for cuts during the past year has been higher than in any previous year. All the cuts paid for have not yet been used and these should be properly charged to 1931 to make it appear more evenly balanced.

It may be proper here to state that we have followed a consistent policy for years of furnishing three cuts to any article at the expense of the Journal Fund; and we have asked the author to assume the expense of any additional cuts if needed or desired by the author. To this we have made exceptions in cases of a large number of cuts to an article. In such cases we have assumed about one-third of the expense. A case in point is an article published in the November number containing 27 cuts.

The publication board has, however, decided at this meeting that the practice referred to in the last paragraph should not be continued.

Cuts are an interesting and necessary part of good state medical journalism. The Journal attracts a good deal of attention outside of this state. We have many requests from medical bodies and medical libraries elsewhere for places on the complimentary mailing list; so much so that it becomes somewhat of a problem how far to comply with such requests. If the Councilors will continue the appropriation of the sum of $1.50 from the dues of each member to the Journal Fund, we feel that we can get along quite comfortably, and give the profession a Journal as creditable as most of them.

F. A. Long, Chairman,
B. F. Bailey.

JOURNAL FUND

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS

January 1, 1930 to December 31, 1930, as compared to January 1, 1929 to December 31, 1929:

	1930	1929
Direct Journal Receipts:		
Advertising Space	$4,926.88	$5,003.54
Cuts	148.00	90.03
Copies Sold	14.22	9.20
Subscriptions to Journal	47.00	51.75
Dividend Cooperative Advertising	308.71	264.55
Total Direct Receipts	$5,444.81	$5,419.07
Shares Dues Rec'd—General Fund	1,761.00	1,771.50
Total Receipts—All Sources	$7,205.81	$7,190.57
Direct Journal Disbursements:		
Salaries:		

Dr. F. A. Long	$1,200.00	$1,200.00
Dr. R. B. Adams	1,300.00	1,300.00
	$2,500.00	$2,500.00
Publication Expense:		
Huse Publishing Co.	$4,373.71	$4,451.13
Baker Bros. Eng. Co.	623.59	330.63
Bank Charge	3.43	3.49
Uni. Press Clipping	42.00	42.00
	$5,042.73	$4,827.25
Total Direct Disbursements	$7,542.73	$7,327.25
U. S. Savings & Loan—Investment		1,000.00
Total Disbursements	$7,542.73	$8,327.25
Excess Disbursement over Cash	$ 336.92	$1,136.68
Cash on Hand, January 1	$ 769.95	$1,906.63
Total Cash on Hand	$ 433.03	$ 769.95

STATEMENT OF INVESTMENTS

January 1, 1930 to December 31, 1930

Investments on Hand January 1, 1930:		
Balance in Account—Omaha Loan & Bldg. Assn.		$2,807.42
Balance in Account—Standard Savings & Loan		1,582.30
Balance in Account—Union Loan & Savings		1,890.32
Balance in Account—U. S. Savings & Loan Assn.		1,055.43
Total January 1, 1930		$7,335.47
Additions to Investment During Year:		
Represented by:		
Dividend Credits—Omaha Loan & Bldg. Assn:		
July 1, 1930	$63.16	
December 31, 1930	64.58	$127.74
Dividend Credits—Standard Savings & Loan:		
Dividend Credits—Union Loan & Savings:		
July 1, 1930	$56.71	
December 31, 1930	58.41	115.12
Dividend Credits—U. S. Savings & Loan:		
December 31, 1930		67.92
Total Dividend Credits During Year		310.78
Investment on Hand, January 1, 1931		$7,646.25
Represented by:		
Balance—Omaha Loan & Bldg. Assn.		$2,935.16
Balance—Standard Savings & Loan		1,582.30
Balance—Union Loan & Savings		2,005.44
Balance—U. S. Savings & Loan Assn.		1,123.35
Total January 1, 1931		$7,646.25

GENERAL FUND

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS

January 1, 1930 to December 31, 1930

Cash Receipts:		
Membership Dues	$9,392.00	
Interest	63.46	
Total Cash Receipts		$9,455.46
Cash Transferred to other Funds:		
Journal Fund	$1,761.00	
Defense Fund	2,354.00	
Total Cash Transferred		4,115.00
Balance available for General Fund		$5,340.46
Cash on Hand, January 1, 1930		882.16
		$6,222.62
Cash Disbursements:		
Salaries—R. B. Adams		$ 600.00
Office and Administrative Expense:		
Rent	$ 180.00	
Telephone	92.49	
Printing	68.22	
Bank Charge	4.38	
Stamps	126.21	
Sec. of State Fee	1.00	
F. A. Long (1929 expense)	41.75	
Insurance Premium	5.00	
A. M. A.	13.00	
Student Loan Fund	5.00	
Multigraph Letter Shop	3.65	
Cornhusker Hotel for Dr. Dodson	3.90	544.60
Miscellaneous Expense:		
Councilor Expense	$ 311.21	
Huse Pub. Co.—Programs	53.20	
Program Committee	16.00	
Speakers at Meeting	167.71	
Brome, Thomas & Ramsey & McGuire-Peters Acct.	100.00	
K. S. J. Hohlen—Campaign Committee	500.00	
K. S. J. Hohlen—Pres. expense	75.00	
State Fair Committee	239.75	
Public Activities Committee	929.92	
Dr. E. R. Hays—Salary	1,000.00	
Chairman on Public Policy and Legislation	9.00	3,401.79
Convention Expense:		
R. W. Fouts	$ 58.00	
B. F. Bailey	58.83	
Alice Cary Gilchrist	65.00	
Evelyn Otte	75.00	256.93
Total Disbursements for Year 1930		$4,803.32
Balance Cash on Hand, December 31, 1930		$1,419.30

Audited and found correct, January 12, 1931.

Frank Tornholm,
A. L. Cooper,
W. R. Boyer,
Auditing Committee.

STATEMENT OF INVESTMENTS

January 1, 1930 to December 31, 1930

Investments on Hand, January 1, 1930:		
Cash Held by Omaha National Bank	$ 81.52	
Securities Held by Omaha National Bank	4,470.00	$ 4551.52
Balance in Account—Omaha Loan & Bldg. Assn.		1,460.26
Balance in Account—Conservative Sav. & Loan		$2,863.65
Balance in Account—Nebraska Central Bldg. & Loan Assn.		1,654.89
Balance in Account—U. S. Sav. & Loan Assn.		1,055.43
		$11,585.75
Additions to Investments During Year 1930:		
By: Interest Credits—Omaha Natl. Bank		235.08
Transfer from Income Account—Omaha National Bank		200.00
Dividend Credits—Omaha Bldg. & Loan		66.44
Dividend Credits—Conservative Sav. & Loan		130.30
Dividend Credits—Nebr. Central Bldg. & Loan		92.26
Dividend Credits—U. S. Sav. & Loan		67.92
		$12,377.75

Withdrawals During Year 1930:		
Trustee Fee Year Ending Jan. 1, 1931	$ 32.21	
Transfer to Principal Account	200.00	232.21
Investment on Hand, January 1, 1931		$12,145.54
Represented by:		
Cash Held by Omaha National Bank	$ 184.39	
Securities Held by Omaha National Bank	4,570.00	4,754.39
Balance in Account—Omaha Bldg. & Loan Assn.	$1,526.70	
Balance in Account—Conservative Sav. & Loan	2,993.95	
Balance in Account—Nebraska Central Bldg. & Loan	1,747.15	
Balance in Account—U. S. Sav. & Loan Assn.	1,123.35	7,391.15
		$12,145.54

DEFENSE FUND

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS

January 1, 1930 to December 31, 1930

Cash Receipts:			
Share Dues Received from General Fund		$2,354.00	
Interest Received		27.30	
Total Cash Receipts			$2,381.30
Cash Disbursements:			
R. W. Fouts, salary		$ 600.00	
Attorney Fees:			
H. A. Bryant	$580.00		
James C. Kinsler	100.00		
Richard F. Stout	100.00	780.00	
R. W. Fouts, Expense		141.36	
Omaha National Bank		1,000.00	
Total Cash Disbursements			$2,521.36
Excess Disbursements over Cash			$ 140.06
Cash on Hand, January 1, 1930			$1,154.24
Balance December 31, 1930			$1,014.18

Audited and found correct, Jan. 12, 1931.

Frank Tornholm,
A. L. Cooper,
W. R. Boyer,
Auditing Committee.

STATEMENT OF INVESTMENTS

January 1, 1930 to December 31, 1930

Investments on Hand, January 1, 1930:		
Cash Held by Omaha National Bank		$ 94.05
Securities Held by Omaha National Bank		1,800.00
Balance in Account—U. S. Sav. & Loan Assn.		1,055.43
Total January 1, 1930		$2,949.48
Interest Credited During Year:		
Omaha National Bank	$103.30	
U. S. Sav. & Loan Assn.	67.92	171.22
		$3,120.70
Cash Transferred:		
Trustees Fee for Year Ending December 31, 1930		28.43
		$3,092.27
Additions to Investment:		
Investment: Fourth Liberty Loan		1,000.00
Investments on Hand, January 1, 1931		$4,092.27
Represented by:		
Cash held by Omaha National Bank	$ 168.92	....
Securities Held by Omaha National Bank	2,800.00	
Balance in Account—U. S. Sav. & Loan Assn.	1,123.35	
		$4,092.27

ACETYLSALICYCLIC ACID.

Acetylsalicylic acid—commonly called aspirin, even by those who ought to know better—has very largely replaced the other salicylates in the practice of most physicians because of its milder and more prolonged effects, its comparative freedom from irritant action, its pleasanter taste and the powerful analygesic and antipyretic powers which it possesses. It occurs in fine, needle-like crystals, is freely soluble in alcohol and ether and in about 100 parts of water.

Physiologic Action—The action of acetylsalicylic acid is, broadly speaking, the same as that of salicylic acid and the salicylates. On the nervous system it acts by causing roaring in the ears and diminished reflexes, if given in large doses. It has little effect on the circulation, but such as it is it is depressing, in massive doses, so that care should be exercised in giving it to patients with weak hearts. The slight effect on respiration is stimulating.

Fever and, to a much less extent, normal body temperature is lowered, probably by increasing heat dissipation and decreasing heat production.

Uric acid and urates deposited in the tissues are not removed by the salicylates, the considerably increased excretion of those substances being due merely to the increase in general body metabolism.

Acetylsalicylic acid differs from the older salicylates in that it is broken up in and absorbed from the bowel instead of from the stomach. This markedly lessens the irritating effect on the gastric mucosa and ensures slower and more prolonged effects. In large doses it is a powerful sudorific.

In poisonous doses it causes irritation of the cranial nerves, with symptoms of cinchonism; depression and paralysis of the muscular structures; and death from respiratory failure. It is incompatible with alkalies.

Uses—It is probable that, at the present time, acetylsalicylic acid is used more often—and is more widely used—for pain of a neuralgic or rheumatoid type than for any other purpose. Large numbers of laymen are accustomed to keeping a bottle of tablets in the house and "taking a dose of aspirin" whenever they suffer pain of any kind. Such use should be actively discouraged, though in the hands of a physician it is a reliable and practically harmless analgesic for almost all types of pain.

In common with the other salicylates, it finds its most nearly specific use in acute articular rheumatism, in which cases it considerably relieves the pain and materially shortens the course of the malady. It has no direct effect in preventing the development of complications, but it does add to the patient's comfort and hasten his recovery.

It is valuable in lumbago, sciatica and kindred maladies and also in migraine, in rheumatic persons; while in tonsillitis it is one of the most valuable remedies we possess. Here it should not only be given internally but also applied locally to the seat of inflammation, in crystal form, on an applicator, several times a day. Combined with quinine it has been much used in influenza, but this combination should be put up freshly each time as, if allowed to stand in the presence of heat and moisture, it develops a toxic substance called quinotoxin.

It is fairly efficient intestinal antiseptic but for this purpose phenyl salicylate (salol) is probably better, just as acetphenetidin (phenacetin) is more efficient in true neuralgia.

It is much used, alone or with other remedies, in the early stages of common colds and bronchitis, and if the patient can stay in bed for a day or two, it is very effective in these cases.

Acetylsalicylic acid is useless in gonorrheal rheumatism, and its value in gout and rheumatoid arthritis is probably confined to its analgesic effects.

It is cantraindicated in meningeal congestion or inflammation, middle-ear disease, renal insufficiency, albuminuria and nephritis as well as in advanced cases of heart disease with weakened circulation.

Dosage—Acetylsalicylic acid should be given in dry form in tablets or capsules, followed by considerable quantities of water or milk.

In acute rheumatic fever the dose is 10 to 15 grains (0.65 to 1.00 Gm.) every 3 or 4 hours. The drug should be continued for a week or two after all symptoms have subsided. For pain, a dose of 5 to 10 grains (0.325 to 0.650 Gm.) may be repeated as required.

In tonsillitis and quinsy it is better to give smaller doses—3 to 5 grains (0.200 to 0.325 Gm.) —every hour or two until the desired result is obtained, and then less often. As an intestinal antiseptic the dose should be 10 to 15 grains after meals.

The dosage for children should be in proportion to the age and size.

The wide field of usefulness and general harmlessness of acetylsalicylic acid are attested by its popularity with the laity, and in this very popularity, with its large opportunities for misuse, lies the chief danger connected with this drug.

The familiarity of most persons with the name aspirin, and with its physical appearance and properties makes it important, if the physician desires to keep the patient's medication in his own hands, that he should be careful always to use the official name in prescribing or mentioning the drug, and that, if he dispenses it, it should be disguised with some simple coloring or flavoring material or both, so that the patient will be less likely to continue using it on his own responsibility.

—Clinical Medicine.

TRICHINOSIS AND ITS OCULAR MANIFESTATIONS

Three cases are reported by Leland F. Carter, Detroit (*Journal A. M. A.*, Nov. 8, 1930). A study of the blood in the first two cases was made at intervals over a period of two years, at the end of which time there was an entire absence of all the signs and symptoms of the disease. The eosinophil count was observed to be lowest during the acute stage of the disease, increasing with a remission of symptoms only to be reduced with each exacerbation. The neutrophil count was lowered in direct proportion to the increase in the eosinophils, and vice versa. With a gradual return of the eosinaphil count to normal there was a corresponding increase in both the neutrophils and the lymphocytes. Two of the cases reported by Carter demontrated well the symptomatology of trichinosis. The one showed a conjunctival reaction characteristic of trichinosis which is present in possibly 50 per cent of all cases. The other patient did not present this sign but might have had she been examined earlier in the course of the disease. The third case, if trichinosis, was asymptomatic. Eosinophilia persisted for a period of from ten to twelve months with a subnormal neutrophil count extending over an even longer period of time. There was no apparent lowering of the patient's resistance to infections during this time. Trichinella larvae were found in the blood stream. In one case they were found as late as the fourth week following the onset of symptoms. The only dependable treatment of apparent value is early purgation.

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ANNUAL DUES

If your dues are not paid you became delinquent a month ago and you are not entitled to the benefits of Medical Defense or the Journal and if the Journal reaches you it is by courtesy only, not by right. Send $8.00 plus your county society dues to your county secretary at once and become reinstated.

CALL FOR PAPERS

If you wish to present a paper before the annual meeting of the Nebraska State Medical Association May 12-14 at Omaha, please send name and title to the secretary, Dr. R. B. Adams, Center-McKinley Bldg., Lincoln, at once. The time limit for papers is about at an end.

DON'T DO IT

Before it is too late think carefully over the proposition of allowing your membership to lapse and don't do it. Your membership in organized medicine means a lot to you whether you now fully realize it or not. Does your membership in the Church, in your lodge, in your club, mean anything to you? Assuredly! Your profession is your life work, your association with your co-workers in the profession is necessary to your fullest success. No man is sufficient unto himself alone: he needs the association and fellowship of his kind. We are passing through a trying economic period and dollars are hard to get; but somehow you can manage to get along with your other obligations and you must with the obligation to the medical society. The upturn in the stockmarket and the general trend of daily news indicates that—"Good times are coming; they are almost here".

THE MEETING OF THE COLLEGE OF SURGEONS AT LINCOLN IN FEBRUARY

Much of value is derived from attending medical meetings due to inspiration from the leaders in the profession, quite apart from the scientific lore broadcasted by those on the program, valuable as that is.

The meeting of the Nebraska Section, American College of Surgeons, held at Lincoln, February 9 and 10, was an exceptionally inspirational one because of the fact that all the guest talent was literally bubbling over with enthusiasm over the subject presented. The local presentations were also of exceptional merit—and this is no editorial hyperbole. The attendance was not large—perhaps one hundred and fifty—due partly no doubt to prevailing economic conditions.

The guest speakers were: Max M. Peet, M. D., Ann Arbor, Professor of Surgery, University of Michigan Medical School; Frank D. Dickson, M. D., Kansas City, Orthopedic Surgeon, St. Luke's and Kansas City General Hospital; Alton Ochsner, M. D., New Orleans, Professor of Surgery, Tulane University of Louisiana School of Medicine; Bowman C. Crowell, M. D., Chicago, Director of Clinical Research, American College of Surgeons; Harry M. Richter, M. D., Chicago, Professor of Surgery, Northwestern University School of Medicine; Irving S. Cutter, M. D., Chicago, Dean of Northwestern University Medical School; Superintendent, Passavant Memorial Hospital; Frederick C. Herrick, M. D., Cleveland, Assistant Clinical Professor of Surgery, Western Reserve University School of Medicine; Malcolm T. MacEachern, M. D., Chicago, Associate Director, American College of Surgeons, and Director of Hospital Activities.

A few outstanding dicta must suffice to point the trend of thought of the guest speakers as well as the local speakers: Too much is said about cranial injuries and not enough thought given to intracranial injuries—too much about skull fractures and not enough to injuries of the brain substances; In fracture through petrous portion of the temperal bone, wipe auditory canal dry, apply tincture of iodine and pack with sterile gauze, changing daily; in fracture through cribiform plate of ethmoid pack with iodoform gauze; scalp lacerations should be treated with debridement and carefully sutured; lumbar puncture has superceded sub-temperal decompression. Ureteral catheterization, dilitation and delivery of calculus is now possible in the vast majority of cases. Splanchnic, spinal or regional anaesthesia is entirely practical and most desirable in operations for obstruction of the bowels; sodium chloride and glucose intravenously a desirable after-treatment; physostigmine sometimes useful; pituitrin should never be used. The modern theory of non-union of fractures is that the cause is nearly always local, due to non-deposition of calcium but how deposition is interfered with is not clear. Injection treatment of varicose veins not applicable in the presence of phlebitis, in deep veins, nor in presence of extensive skin infection or advanced arterial disease; of all injection formulae that of invert sugar and sodium salicylate is most nearly ideal, since it produces no symptoms.

The local profession presented an array of most interesting cases in the dry clinics that space forbids to mention. A number of cases of almost complete recovery of muscle function following poliomyelitis, by various physical therapeutic measures, were shown.

A public health meeting was held at St. Paul's church one evening at which meeting talks were given by a number of distinguished doctors.

Dr. Earl Johnson, Grand Island, became president of the Nebraska Section at this meeting and Dr. C. R. Kennedy, Omaha, was elected vice president and president-elect.

THE RELATION OF THE FAMILY DOCTOR AND THE SPECIALIST

The editor of *Southern Medicine* conceived the idea of obtaining the repercussions of his department editors on the relations of the family doctor and the specialists. These reactions are published in the January number. Articles are from the Psychiatrist, Dentist, Ophthalmologist and Otolaryngologist, Laboratory, Orthopedic surgeon, Urologist, Radiologist, Dermatologist, Internist, Surgeon, Therapeutics, Obstetrician, Pediatrist, Gynecologist, Neurologist. All of them discuss the subject calmly and with a desire to do justice to the general practitioner. No startling conclusions are reached. A few outstanding comments: "All doctors are psychiatrists"; "There should be a reasonable division of work between general practitioner and specialist"; "Specialist is a co-worker of the general practitioner"; "A good doctor is one who examines his patients"; "I know of no procedure which a general practitioner may not do, provided he is willing to learn the anatomy and physiology"; "If the general practitioner knows how to diagnose and has a clear conception of the changes taking place in the diseased tissues of the body he is attempting to treat, there will be no reason for the discussion about division of work". To which this editor would like to add that—It is one thing for instance to make an x-ray picture and another to interpret it; also,—The general practitioner must know his limitations. He may be a broad general practitioner doing many things well, or he may be narrow and do nothing creditably. He may lack courage of conviction and run trivial cases to the specialist or he may have courage that convicts him of foolhardiness in attempting to do things that none but the specialist should undertake.

THE EYE, EAR, NOSE AND THROAT MEETING IN OMAHA

The Mid-Western Section of the American Laryngological, Rhinological and Otological Society met in Omaha, January 31st, 1931, under the chairmanship of Dr. Claude T. Uren. There were present about fifty members and fifty guests from Minnesota, Iowa, Missouri, Kansas, Nebraska, South Dakota, Wyoming and Colorado.

The scientific program follows:

1. The Possibilities of Amateur Cinematography in Technical Teaching, by Dr. A. W. Proetz, St. Louis, Mo.
2. Foreign Bodies in the Air and Food Passages; Observation of Eighty Cases, by Dr. T. R. Gittins, Sioux City, Iowa.
3. Acute Otitis Media in Infants, by Dr. D. M. Lierle, Iowa City, Iowa.
4. Problems in Reconstructive Surgery of the Face, by Dr. Gordon B. New, Rochester, Minn.
5. The Treatment of Allergy of the Nose and Paranalal Sinuses, by Dr. French K. Hansel, St. Louis, Mo.
6. The Anatomy of the Ear in Infancy, by Dr. B. M. Kully, Omaha, Nebr. (by invitation).
7. Cerebellar Pontile Angle Tumor, With Report of a Case, by Dr. W. A. Cassidy, Omaha, Nebr. (by invitation).
8. Diagnostic Clinic for Differential Diagnosis of Deafness, by Dr. Max A. Goldstein, St. Louis, Mo., President of the American Laryngological, Rhinological and Otological Society.

The papers were freely discussed by the members and guests.

Dr. Goldstein in his discourse on the deafened child took occasion to criticize the local otologists for their apparent lack of interest in the Nebraska School for the Deaf and quite justly eulogized Mr. Booth and his corps of teachers for the fine work that is being done at this institution. Dr. Goldstein further emphasized the necessity of a survey of the hearing of school children. Local otologists have been working on this problem for the past five years, but have so far been unsuccessful.

Newspaper accounts of Dr. Goldstein's talk, as usual, were misleading and instead of being constructive tended to tear down some of the good brought out in his lecture.

The Omaha and Council Bluffs Eye, Ear, Nose and Throat Society entertained the members and guests at breakfast and dinner and the Chairman entertained at luncheon.

—Claude T. Uren.

CLIMATE AND TUBERCULOSIS

The United States Public Health Service has recently pointed out that there was a time when change of climate was almost always recommended for tuberculosis. People believed that certain climates cured tuberculosis. They thought that dry air or mountain air or warm or cold air was better than some other kind of air and that the climate of the arid southwest or of Florida or of California would cure tuberculosis. Medical opinion has changed. We no longer believe that climate will cure tuberculosis. We ask ourselves where treatment can be obtained of the kind required and within the means of the patient. A child or an aged person is seldom sent far away. A young man or woman may be advised to go away if there is some good reason for it. The most important thing is good medical care, usually in a sanatorium, no matter what the climate is.

Good medical care can now usually be found near home, although twenty years ago one often had to go to a resort to find a tuberculosis specialist. Skillful doctors and nurses and good sanatoriums can be found in almost every state, and, as for climate, no state in the union has found it necessary to go outside its borders to locate its state sanatorium. The home climate, even if it is the worst climate in the world, is best if proper medical and nursing care is available there but lacking elsewhere. Many persons have lost their lives by going to a distant place reputed to cure tuberculosis, where they camped out or lived in a boarding-house or sought a light job, and they might have recovered if the money had been invested in proper treatment near home. A wealthy patient can, of course, go where he pleases, wherever good treatment can also be obtained, and there is no reason why he should not do so; but it does not follow that because a few persons may indulge in the luxury of climate, such indulgence is a common necessity. The average patient must get the greatest amount of good from limited funds. He should choose a sanatorium near home, not a hotel in a resort; a long period of treatment near home rather than a short period elsewhere; rest instead of travel; and proper food rather than scenery.

The average tuberculosis patient desires to go away. He seeks high adventure and self sacrifice. To win a great fight he would brave new and unknown dangers. Also he wants to travel. And he still believes in the specific virtues of special climates. Like Naaman, the leper in the Bible story, he is willing to do some great thing for quick results. He would seek a mountain top or a desert where, he thinks, the waters are cleaner than those of Jordan and the air is purer than among the hills of home. But the patient is usually willing to take advice, and he should be told that the ordinary case of tuberculosis does not need a change of climate.

There are unusual cases, one in a hundred, perhaps, when a change of climate is actually needed, most frequently to escape hot weather. Cold weather is usually desirable. A radical change in the habits of the individual is often necessary. That is why he should go for the first six months to a nearby sanatorium. There the chief business is getting well. He lends himself to the routine of rest and more rest, asleep and awake, freely flowing air night and day, good food, proper food habits, and the other elements of sanatorium life. He learns to "play the game", and after graduation from a sanatorium he is a safe risk for his family physician to treat.

—U. S. Public Health Service.

THE EDWIN SMITH SURGICAL PAPYRUS—I

Medical literature dates back to a period 3000 years B. C. Medicine and surgery had attained a recognized social and legal position in Western Asia before 2000 B. C. as is revealed in the Code of Hammurupi which gives tariffs and legal regulations. The physicians of that day had an important social and official standing.

The Edwin Smith Papyrus dates back to 3000 B. C. and may be older. Dr. Smith purchased this Papyrus at Thebes in 1862—at the time of our Civil War. A somewhat better comprehension of its age may be had when it is stated that it is as old as the pyramids. Ancient Egyptian writing was in ideagraphs or hieroglyphics. It took years to decipher the writings and this Papyrus which now belongs to the New York Historical society has recently been made available by publication in two volumes.

A mere glimpse of the work shows us that the early Egyptians had specialists—"a palace eye physician", "a palace stomach physician", "a palace dentist". Adhesive tape was used and surgical stitching was mentioned.

The Edwin Smith Surgical Papyrus is a treatise on forty-eight surgical cases and we shall in succeeding issues give further glimpses into this ancient document.

PROCTOLOGIC HINT—NO. VI

In the past when tuberculosis was more common, it was thought that 90% of ano-rectal-fistulae were tuberculous; the opposite is probably true and about 90% are non-tuberculous.

—L. E. Moon, Omaha.

Dear Reader:

The Journal and the Cooperative Medical Advertising Bureau of Chicago maintain a Service Department to answer inquiries from you about pharmaceuticals, surgical instruments and other manufactured products, such as soaps, clothing, automobiles, etc., which you may need in your home, office, sanitarium or hospital.

We invite and urge you to use this Service.

It is absolutely free to you.

The Cooperative Bureau is equipped with catalogs and price lists of manufacturers, and can supply you information by return mail.

Perhaps you want a certain kind of instrument which is not advertised in the Journal, and do not know where to secure it; or do not know where to obtain some automobile supplies you need. This Service Bureau will give you the information.

Whenever possible, the goods will be advertised in our pages; but if they are not, we urge you to ask the Journal about them, or write direct to the Cooperative Medical Advertising Bureau, 535 N. Dearborn St., Chicago, Illinois.

We want the Journal to serve you.

EDITORIAL PARAGRAPHS

This *Journal* has a new ad from the St. Louis Clinics. Read it.

Iopax is a new name given Uroselectan, introduced in this country about a year ago for urography.

The state bureau of health reports that 287 cases of anterior poliomyelitis occurred in Nebraska last year.

The State Bureau of Health reported 9 cases of poliomyelitis in Nebraska for January which number, considering the season, seems large.

In a case in this state the lower court decided that the board of education has the right to debar from school, children not vaccinated when an epidemic is prevailing.

All county societies should initiate a movement to collect the medical history of their respective counties before the element of time will make it next to impossible.

As early as 1392, and only four years after it was founded, the University of Heidelberg had over one thousand students—and we think we live in the scholastic age.

The Omaha Medical society, the forebear of the present Omaha-Douglas County Medical society, was formed in 1887, and eleven of the charter members are now living in Omaha.

It is stated on authority that due to general economic conditions hundreds of hospitals have been closed in various parts of the country, notably in the drouth sticken sections of the south.

It appears that tomato, potato, sweet potato, corn, beans, peppers, squash, pumpkin, peanuts, and pineapple, and some rarer vegetables, are native to America and were, therefore, unknown to the Eastern Hemisphere before Columbus discovered America.

Since alcotate is now to be used as a denaturant for rubbing alcohol and alcotate tastes and smells like rotten eggs and garlic, but does not kill, however disagreeable it must be to the sick who need alcohol rubs, we must all be satisfied; for what is a mere invalid against a thirst?

Physicians' collecting agencies are quite generally unsatisfactory to the physician, we believe. From time to time adverse comments on such agencies appear in the state journals. Our own observation and experience bear out the above. When a claim looks hopeless to yourself it is just as well to bid it goodbye.

A copy of the *Birth Control Review* is at hand. This magazine is in its fifteenth year of publication. Those of us who thought birth control a new movement were not awake to the facts. We are not prepared to discuss the merits of this movement; but we have frequently wondered why certain people were born.

Dr. C. E. Ruth, surgeon of Des Moines, well known by his development of the Ruth method of treating intracapsular fractures of the femur, died December 11, 1930, aged sixty-eight years. He served in the Spanish and World Wars. He was a graduate of the Iowa University Medical School, 1883, and a friend of this writer.

A decision has been reached in a number of instances where the matter has been brought to the knowledge of a court for judgment that, although the patient does pay for the x-ray study, the plates necessary to the accomplishment of the desired result are but a means to an end and, therefore, belong to the institution and not to the patient.

The physicians of the following eight counties, Garfield, Greeley, Hall, Howard, Merrick, Sherman, Wheeler and Valley, joined in a free clinic for the examination of crippled children according to the Elks program, February 26, at Grand Island. This is a very much worthwhile work and again shows the interest of the medical profession in humanity.

The program for the Annual Conference on Medical Education, Medical Licensure and Hospitals held in Chicago, February 16-18, indicated a conference of tremendous importance. Nebraskans scheduled to take part were Dr. H. von W. Schulte, dean, Creighton Medical college, and Dr. H. J. Lehnhoff, Lincoln, secretary of the Nebraska Board of Medical Examiners

In the development of your county societies, do not overlook the dentists—dentistry is a branch or specialty within the domain of medicine—and the dentists if invited will gladly cooperate. Give them associate memberships at a dollar a year. Have at least one program each year put on by the dental profession. Try it out and you will wonder why you had not thought of it long ago.

Press reports indicate that the people of Grand Island have been awakened to the benefits of toxin-antitoxin immunization against diphtheria. It is stated that about 1500 school children have been immunized, the members of the medical profession contributing the service gratis and the board of education furnishing the serum. Figure for yourself what an unselfish contribution to human welfare the medical profession has made in this instance.

Dr. W. A. Jones, editor of the *Journal-Lancet*, Minneapolis, died January 15, 1930, aged seventy-one years. He was a native Minnesotan. He graduated at the University of the City of New York in 1881 and his entire active career was in Minnesota. He was a neuropsychiatrist and held prominent teaching and civic positions pertaining to his specialty. He was one of the vice presidents of the American Medical Association two years ago. He was a forceful writer and edited the *Journal-Lancet* for thirty years.

Professor E. Lowenstein, *Wien klin. wchnschr.*, has produced an ointment containing the diphtheria toxin modified by the addition of formaldehyde and dead diphtheria bacilli which is to be used for diphtheria immunization. It is not generally available in this country, but of 110 children who received three inunctions 55% became Schick negative within six weeks and 76% within four months. Kegal and Gasul, Chicago, tried the treatment on forty-seven children with a 55% negative reactions to the Schick test.

Judging from contacts with younger men in the profession one wonders what can be the matter with the present day teaching of materia medica, therapeutics and prescription writing? The physician of fifty years ago may have lacked in many things now necessary in a medical professional life, but he was taught to write a prescription, was taught to compose a prescription, he knew his materia medica and the therapeutic application of drugs—the younger men are apt in prescribing patent medicines and proprietaries. One wonders whether it is laziness or whether the teaching is at fault. "Sumpin's" wrong.

The American Association for the Study of Goiter again offers an award of three hundred dollars ($300.00) for the best essay based upon original research work on any phase of goiter presented at their annual meeting in Kansas City, Mo., April 7th, 8th and 9th, 1931. It is hoped this offer will stimulate valuable research work, especially in regard to the basic cause of goiter. Competing manuscripts must be in the hands of the Corresponding Secretary, J. R. Yung, M. D., Terre Haute, not later than April 1, 1931.

The following hospitals in Nebraska have been approved by the American College of Surgeons: Alliance, St. Joseph's hospital; Beatrice, Lutheran hospital; Columbus, St. Mary's hospital; Falls City, Falls City hospital; Grand Island, St. Francis hospital; Lincoln, Bryan Memorial hospital, Lincoln General hospital, St. Elizabeth's hospital; Omaha, Bishop Clarkson Memorial hospital, Creighton Memorial St. Joseph's hospital, Evangelical Covenant hospital, Immanuel hospital, Nebraska Methodist Episcopal hospital, St. Catherine's hospital, University of Nebraska hospital; Scottsbluff, West Nebraska Methodist Episcopal hospital.

We are authoritatively informed that within the last eighteen months, three judgments totaling $48,500, have been affirmed by the Nebraska Supreme Court against three Nebraska physicians. All of these physician carried mal-practice insurance, but only one had sufficient protection to cover his loss. One lacked nearly $20,000.00, while the third had to pay something more than $5,000.00. This fact demands the attention of every practicing physician. While a mal-practice law-suit was a rare occurrence a generation ago, they are now quite common, and today more than fifty Nebraska physicians are defendants in some sort of mal-practice litigation.

The Parent-Teacher association had featured noon luncheons at school on the ten-cent plan. At the end of the year a report was made that showed a balance of $46 in the treasury. Tremendous applause greeted this announcement. A timorous little mother, who had taken a course in home economics and had profited thereby, in a moment of indignant temerity, rose and said, instead of applauding they should be ashamed of themselves and pointed out to the audience how many quarts of milk that would have bought, or how much peanut butter that $46 would have provided for the children's bread which up to that time had been served to them dry and had, of course, been thrown away. Who will gainsay her statement?

An International Conference on Calendar Simplification was placed on the agenda of the next General Conference on Communications and Transit, by the Assembly of the League of Nations, meeting this fall, with the United States participating, to take definite action to secure calendar improvement. In the United States there are two major plans under consideration—the International Fixed Calendar which proposes a thirteen-month-year, and The World Calendar which proposes a twelve-month-year. The "Swiss Plan" favored in Europe and The World Calendar are fundamentally the same, as the halves and quarters are equalized and a perpetual calendar is effected in each; the arrangement within the quarters is different.

The National Probation Society, to improve the treatment of court offenders in the criminal and juvenile courts of the country recommends: First, facilities for physical and psychiatric examinations for all courts dealing with problem children and early offenders. Second, the appointment to court positions of only judges and probation officers who are trained and qualified by experience and personality for the job in hand. Third, the establishment of state probation departments or bureaus in order that the work of court and probation departments may be standardized and rendered more effective. "Justice", states the Year Book, "can never be truly meted out until juvenile courts and probation are developed on a state-wide basis granting assistance to the rural regions as well as to the cities." Fourth, the improvement and standardization of laws relating to delinquency and crime prevention. Fifth, the extension of methods and processes of the juvenile court to the treatment and disposition of offenders over the age of 16 or 18 years as now generally provided by law.

THIS MONTH IN MEDICAL HISTORY

March, 1931

Boerhaave retired in 1731 and upon his recommendation Jerome Dabid Gaubius succeeded him as professor of Botany and Chemistry at Leyden. Gaubius had been a favorite pupil of Boerhaave for several years before 1725.

Borelli published his remarkable book on the physiology of muscular and joint movements (De motu animalium) in 1681.

Luigi Rolando (1773-1831) for whom the fissure of Rolando and other parts are named was one of the early students of cerebral localization. He was born in Piedmont.

Two hundred and fifty years ago (in 1681) the Royal College of Physicians of Edinburgh was founded.

Wilhelm His was born in Basel, Switzerland. He was one of the most distinguished anatomists and embryologists of the 19th century. He was a Professor at Basel, 1857-72, and then at Leipsic. His revision of anatomical nomenclature reduced the current anatomical terms by about 80% (Garrison). This was translated into English in 1907 by Llewellys F. Barker.

In 1881 the first resection of the pylorus was performed by Billroth (1829-94), who was an assistant of Langenbeck and a follower of Lister.

Laveran discovered the parasites of malaria in 1881. He belongs to our own time and has made important contributions to our knowledge of paludism, trypanosomiasis and military hygiene and medicine.

Thomas Fienus was Professor of Physic at Louvain and died there in 1631. He wrote several medical and surgical works; among others an account of a hypochondriac patient who imagined himself to be too large to leave his room.

One of the earliest newspapers known was issued by a physician. It was the Gazette de France published by Renaudot in 1631. This was not a medical publication but was more strictly what we should now call a "labor paper" designed to improve conditions between employers and their employees.

Friedrich Ruysch, a Dutch anatomist, formed a very useful and interesting anatomical collection which he sold when he was 79 years old to Peter the Great of Russia. Ruysch sold this first collection for $75,000.00 and in spite of his advanced years, thereupon set about making another collection which he sold later for $50,000.00. He died February 22, 1731, at the age of 93.

NECROLOGY

Lorenzo C. Voss, Colmbus, Nebr.; Homeopathic Medical College of Missouri, St. Louis, 1888; practitioner at Columbus for thirty years; one of the charter members of the Platte County Medical society; member Nebraska State Medical Association; died January 28, 1931, of heart disease, aged about sixty-five years.

Edwin A. Mendell, St. Joseph, Mo.: Lincoln Medical College, 1892: once a practitioner at Tecumseh; died at St. Joseph, Mo., January 21, 1931, aged about sixty-nine years.

John H. Regan, Calexico, Calif.; Creighton Medical College, 1916; major in the medical corps during the World war; practitioner at Chadron three years, later in Chicago three years, from which place three years ago he moved to California; died at Calexico, January 31, 1931, of pneumonia. He is survived by a widow and daughter. His parental home was Grand Island.

PANORAMIC VIEW OF THE WOMAN'S AUXILIARY TO THE A. M. A., IN FOUR ARTICLES

1. THE EASTERN DISTRICT

Mrs. W. Wayne Babcock, Philadelphia, Pa.

According to the Constitution of the National Auxiliary the first Vice-President is automatically Chairman of organization, the three other Vice-Presidents being organizers for their section of the country. Mrs. Southgate Leigh of Virginia, therefore holds this Chairmanship, and the Eastern District is her particular responsibility. At her request a series of four articles is being prepared by her committee in order that each district may be cognizant of the progress of its own state's as well as those of the other three sections. The individual state journals have been generous in extreme in the space they have allowed their auxiliaries and this additional courtesy of reporting the auxiliary situation in other states is deeply appreciated, for there is a growing desire to know "what others are dong".

New Hampshire stands alone as the only New England state 100% organized and cooperating with the National Organization. Last year the state auxiliary had misgivings as to its necessity and usefulness but an urgent request from the medical society that the women remain organized, dispelled all doubts. During the year following, Mrs. Hubbard, wife of the State President, visited every county which encouraged and stimulated the growth of unit auxiliaries.

The New Jersey Auxiliary made pilgrimages to state institutions, set apart one meeting when the mothers of physicians were entertained, and sponsored various health meetings. The Essex County Auxiliary, assisted by the physicians, succeeded in establishing a course of health talks, in cooperation with the Y. W. C. A. of Newark, emphasizing especially prenatal care and information which would aid the mothers of babies and young children. Last year Mrs. James Hunter, Jr., New Jersey's State President, visited every county as did Mrs. Walter Jackson Freeman in Pennsylvania, during her Presidency. One cannot help drawing the conclusion that personal contacts are necessary for county development and success.

Virginia is active in spots. The doctors encourage the auxiliaries as they believe that through them education with regard to the menace of state medicine can be spread.

Ohio for several years has been sending representatives from a few organized counties to the National meetings but as yet there is no state organization. As our friend and advisor, Dr. Upham, lives in Ohio, it is felt that he will advise the National Auxiliary when the auspicious time arrives for the establishment of a State Auxiliary.

The District of Columbia seems so completely diverted with Washington affairs that the auxiliary which so capably cared for the A. M. A. meetings some years back seems to have gone into retirement.

Delaware in a breathles, better-late-than-never manner, has completely caught up and is most interested and active and has entered upon serious work by assisting the men of the profession in establishing a medical library in Wilmington. They will cooperate with Philadelphia at the time of A. M. A. and the eastern section will introduce them with pride to the National Organization. West Virginia is up and doing and you may expect still better things from that State this year.

Maine, Massachusetts, Rhode Island, Vermont and Maryland have reported the interest of individuals but no organized effort. Queries from different localities in New York as to why there is no auxiliary have been answered with the statement that several years ago the House of Delegates voted unanimously in favor of the auxiliary and authorized its organization. The same year Connecticut voted favorably but no definite steps have been taken.

Pennsylvania has surely discovered the rhythm in which its auxiliary work is best done, for concrete accomplishments have been turned out regularly, year by year. Of the three thousand dollars contributed to the Medical Benevolence Fund more than two-thirds was contributed by the Auxiliary. A definite trend toward educational meetings is felt all over the state and socially it is hoped that the carefully formed Philadelphia plans for the next meeting will bring honor and glory to the Keystone State. Not only are the adult members of the auxiliary meeting but a group of the most charming and good-looking daughters of doctors are working together in order that they may know each other and work in unison for the comfort and pleasure of the A. M. A. guests when they come to Philadelphia in May. Verily, who can question the wisdom of the auxiliary, when it brings about so much willing work in behalf of the medical men of the country?

AUXILIARY NOTES

The Woman's Auxiliary of the Lincoln County Medical Society held its January meeting at the Yancy Hotel in North Platte with Mrs. Edward Stevenson acting as hostess for a one o'clock luncheon. The following officers were elected for the coming year:

President, Mrs. Joel Anderson.

Vice President, Mrs. E. W. Fetter.

Secretary and Treasurer, Mrs. Townsend E. Dent.

The Woman's Auxiliary of the Lancaster Medical Society entertained at a tea in the rooms of the society, top floor of the Sharp building, Lincoln, Sunday, February 15th. There were motion picture talks on London by Dr. B. F. Williams and Dr. D. C. Hilton. There was an exhibition also of etchings and medical books of interest. Proceeds of the entertainment were given to the medical library of the society.

Members of the Women's Auxiliary of the Douglas County Medical society gave a musical tea January 19, from 3 to 6 o'clock, at the home of Mrs. Francis W. Heagey, 521 South Thirty-eighth avenue.

The musicale was presented by Madame Eugenie Colachova of Lincoln, who gave a group of Russian songs, playing her own accompaniment; and violin solos were given by Mrs. G. Crawford Follmer, accompanied by Miss Eugenie Whitmore.

The Woman's Auxiliary to the Douglas County Medical society met at luncheon at the Fontenelle Friday, January 30, at a 12:30 o'clock luncheon. The affair was the opening meeting of this year for the organization.

Mrs. Harry C. Miller, newly elected president of the auxiliary, presided. Following luncheon a formal welcome from the Douglas County Medical society was extended the members of the auxiliary by their president, Dr. A. S. Pinto. Mayor Richard L. Metcalfe spoke of the opportunities offered this medical group for really worth while work, and Dr. C. W. M. Poynter, president of the Council of Social Agencies, gave an address on "The County Unit."

—H. C. R.

MEETING OF THE AMERICAN ASSOCIATION FOR THE STUDY OF GOITER

April 7, 8, 9, Kansas City ,Missouri.

Tuesday Morning—April 7.

Diagnostic Clinic—Dr. H. S. Plummer, Rochester, Minnesota. Clinical Pathological Conference, conducted by Dr. Gordon Fahrni, Winnipeg, Canada. Opened by: Dr. Allen Graham, Cleveland, Ohio; Dr. S. D. Van Meter, Denver, Colorado; Dr. Harold Marsh, Madison, Wisconsin; Dr. Frank Dorsey, Keokuk, Iowa.

Tuesday Afternoon—April 7.

Dr. H. S. Plummer, Rochester, Minnesota; Dr. J. F. McClendon, University of Minnesota; Dr. C. Toland, Los Angeles, California; Dr. Morris Ginsberg, Kansas City, Missouri; Dr. Martin Nordland, Minneapolis, Minnesota; Dr. Le Roy D. Long, Oklahoma City, Oklahoma.

Wednesday Morning—April 8.

Surgical Clinics presented by staffs of Kansas City Hospitals. Round Table Discussion of Important Problems relating to Thyroid Surgery. Conducted by Dr. Arnold Jackson, Madison, Wisconsin. Opened by: Dr. E. R. Arn, Dayton, Ohio; Dr. Ambrose Lockwood, Toronto, Canada; Dr. John Pemberton, Rochester, Minnesota; Dr. J. R. Yung, Terre Haute, Indiana.

Wednesday Afternoon—April 8.

Address—Dr. Kerwin Kinard, Kansas City, Missouri, President of the Society. Paper—Dr. R. D. McClure and Dr. A. B. McGraw, Detroit, Michigan; Dr. Emil Goetsch, Brooklyn, New York; Dr. Fred Coller and Dr. R. D. Arn, Ann Arbor, Michigan; Dr. William Dinsmore, Cleveland, Ohio; Dr. Harry Richter, Chicago, Illinois; Dr. K. McGregor, Hamilton, Ontario.

Thursday Morning—April 9.

Symposium: The Goiter Heart—Dr. L. S. Milne, Kansas City, Missouri; Dr. Harold Marsh, Madison, Wisconsin. Symposium: Preparation and After Care of Operative Cases—Dr. James Hayes, Minneapolis, Minnesota; Dr. A. E. Hertzler and Dr. V. E. Chesky, Halstead, Kansas; Dr. E. P. Sloan, Bloomington, Illinois.

Thursday Afternoon—April 9.

Address—Dr. Charles Frazier, Philadelphia, Pennsylvania. Paper—Dr. Andre Crotti, Columbus, Ohio; Dr. Allen Graham, Cleveland, Ohio; Dr. Howard Clute, Boston, Massachusetts; Dr. Fred Wetherell, Syracuse, New York; Dr. Walter Sistrunk, Dallas, Texas; Dr. Brien T. King, Seattle, Washington.

UNITED STATES CIVIL SERVICE

The United States Civil Service Commission states it is in need of eligibles to fill the following named medical officer positions:

Acting assistant surgeon, United States Public Health Service, Galveston, Texas, $3,800 a year.

Acting assistant surgeon qualified in trachoma work, United States Public Health Service, Ellis Island, N. Y., $3,000 a year.

Acting assistant surgeon for work in pathology, United States Public Health Service, Ellis Island, N. Y., $3,600 a year.

Medical officer qualified in neuropsychiatry, Veterans' Bureau, San Francisco, Calif., $3,900 a year.

Full information may be obtained by addressing the United States Civil Service Commission, Washington, D. C.

THE SOCIETIES

The **Omaha-Douglas County Medical Society** gave its annual dinner at the University club, January 13. Mayor Metcalfe was the principal speaker. The first regular meeting of the year was held January 27, President Pinto in the chair.

The first number of the Scientific Program consisted of a presentation by Dr. J. B. Potts and Dr. A. D. Dunn. Dr. Potts presented a discussion on radical operations upon the antrum for cases of long standing, chronic sinusitis with hyperplastic changes due to polypi and pus infections. Emphasis was laid on the importance of lipiodal injections into the sinuses and the x-ray plates taken in sitting position. This, Dr. Potts believes is a very important factor in proper interpretation of the radiogram in the diagnosis of hyperplastic sinus disease.

Dr. A. D. Dunn cited numerous cases of long standing general constitutional diseases which were relieved.

The regular meeting of the **Lancaster County Medical Society** was held January 6, 1931, the president, Dr. S. E. Cook, presiding. There were about thirty-five members present. There were no clinical cases.

The first paper of the evening was read by Dr. F. M. Arnholt on the "Relations Between the Health Department and the Medical Society." In his paper the doctor pointed out that the Health Department should have full charge of sanitation, vital statistics, contagion control and care of the poor in hospitals and at home. The private practitioner should have charge of all patients, and inoculations for preventable diseases; the expense of which should be borne by the Health Department.

The Health Department and Medical Society should cooperate in the following: First, forming and sponsoring new health ordinances. Second, public health propaganda. Third, improvements in the organization and functions of the Health Department. Fourth, establishment of health clinics for the poor.

The problem of tuberculosis was discussed, emphasis being laid upon the failure of physicians to report the disease and upon the inadequate provisions for the care of people suffering from the disease in Lincoln.

Dr. Arnholt mentioned some of the new activities of the Health Department. First, new incubation facilities for cultures, available at the Gilmour-Danielson Drug Store and University Place fire station, with reports in six to eight hours. Second, maps of city showing location of contagious diseases and all clinic patients. Third, collection of a sanitary code. Fourth, enlargement of the isolation hospital. Fifth, study of 3,000 venereal cases. Sixth, establishment of a dental clinic.

In closing, the doctor suggested the establishment of an advisory health committee representing civic and medical society interests, to work out a health program, and a standing committee elected by the members of the society to confer with the Health Department.

The paper was discussed by Drs. Waite, Hompes, Bartholomew, Wilson, Owen and Brooks.

The second paper of the evening was read by Dr. J. J. Hompes on "Eye Muscle Defects in Children." Dr. Hompes pointed out the weakness of many ophthalmologists in the handling of squint. He made the statement that the cross-eyed child who is not receiving treatment is a neglected child. Twenty-five to fifty per cent of the cases can be cured by wearing proper glasses, by forcing the use of the squinting eye, by the use of fusion and muscle exercises and by care of the individual's physical and mental health. Within six months or sooner following such care it should be determined whether or not the case is surgical. This should not be delayed, because loss of function may occur with delay. When the squint is due to paralysis of an ocular muscle the treatment is always operative. When time or specific general treatment have failed to eliminate the paralysis the squinting eye which is due to defective muscle is not likely to show up until the third year or later. Poor general physical condition may be the cause, and correction of defects is important in their treatment. Acute infectious diseases may precipitate the squint. There is also a strong hereditary factor. Defects in vision are common causes and can be explained by the theory that overaction of a nerve in attempting visual accommodation results in an over stimulus of the muscles supplied by the same nerve. Early refraction of these defects will cure about thirty per cent of squints.

Other causes were suggested. The doctor pointed out that the effect of squint is to produce double vision and that the mind in learning to ignore one of the images produces "brain blindness." Reestablishment of vision requires time and exercise amounting to reeducation, the time required for reestablishment of vision being the time that has lapsed between the beginning of squint and the beginning of treatment. The doctor pointed out that the operation is only used to facilitate treatment which should be continued after the operation. Certain cases are operative from the beginning. Lantern slides were shown.

The paper was discussed by Drs. Curtis, Brooks, Black, Sanderson, Thomas, Knight and Hompes.

—Lancaster County Bulletin.

The newly organized **Northwest Nebraska County Medical Society** is apparently off to a good start. At the December meeting a dinner was given by the Chadron Municipal hospital. Dr. A. J. Courshon read a paper on Hernia. At this meeting Dr. M. B. McDowell was reelected president and Dr. Harry Vanderkamp secretary-treasurer.

The January meeting was also held in Chadron. Dr. Harry Vanderkamp read a paper on Pernicious Anemia. A goodly representative number of physicians from Rushville, Hay Springs, Chadron and Crawford were present at both meetings.

Fifty-five physicians, dentists and their ladies participated in the dinner featuring the meeting of the **Madison-Five Counties Medical Society** at Hotel Norfolk January 27.

Dr. George Pratt, Omaha, gave a talk on the Treatment of Pneumonia which he conceives to be largely symptomatic. He thinks there is some merit to antipneumonic sera in type I and II. He favors alkalinization of patient and the administration of glucose. Tympanitis means toxemia and should be guarded against and vigorously combatted when it occurs. The oxygen tent is useful if anoxemia occurs, as indicated by cyanosis.

Dr. A. W. Tyler, Omaha, gave an interesting round table discussion on Physical Therapy. While he gave a general talk on the subject slips were passed to the audience to write questions pertaining to the physiotherapy. These questions—probably twenty-five—he discussed with entire satisfaction to the audience. Dr. S. H. Brauer, Hoskins, read an interesting report of two cases—duodenal ulcer and superfetation.

The **Richardson County Medical Society** met at the Hotel Weaver, Falls City, over a dinner after which Dr. J. A. Waggoner, Humboldt, was elected president; Dr. F. A. Nelson, Humboldt, vice president; Dr. C. L. Hustead, Falls City, secretary-treasurer; Dr. G. W. Eggermeyer, Shubert, delegate. Dr. G. E. Faucett, Falls City, gave a paper on Restorative Dentistry.

The **Otoe County Medical Society**, January 14, at Nebraska City, elected Dr. G. W. Fegers, president; Dr. W. C. Kenner, secretary-treasurer, and Dr. J. P. Gilligan, delegate. Three Nebraska City men presented papers; Dr. William Edmonds gave a paper on Diagnosis, stressing the need of different angles in obscure cases; Dr. D. D. Stonecypher spoke on Nasal Infections; Dr. A. N. Smith spoke on Examination of the Mouth. He gave a number of x-ray slides on teeth.

The **Johnson County Medical Society** held a good meeting in Tecumseh, January 8, with afternoon and evening sessions. At a business session in the afternoon, at the office of Dr. A. P. Fitzsimmons, officers for the coming year were elected as follows: President, Dr. G. J. Rubelman; vice president, Dr. C. C. Conlee; secretary-treasurer, Dr. Fitzsimmons; delegate to state convention, Dr. C. D. Barnes. After the business meeting the doctors went to the Tecumseh theater where they were shown moving pictures of the handling of traumatic injuries, the same being exceptionally fine illustrations of actual work in modern methods used in teaching surgery, etc. The pictures went directly from Tecumseh to Las Vegas, Nev., in the Boulder dam canyon, where, with heavy construction work in progress, many injuries are happening to workmen right along.

A 6:30 o'clock dinner was given at the Hotel Hopkins, with a good attendance, after which a session was held at the Legion hall. The program in the closing meeting, which was fully interesting and instructive, was as follows:

"Traumatic Cerebral Injuries," Dr. David Hilton of Lincoln; discussion led by Dr. H. M. Hepperlin of Beatrice.

"Appendicitis," Dr. I. A. McKinnon of Lincoln; discussion led by Dr. P. L. Fall of Beatrice.

Round Table discussion led by Dr. W. M. Boyer of Pawnee City.

—The Chieftain.

The **Buffalo County Medical Society** met at Kearney January 29 and elected Dr. R. M. Lee, Ravenna, president; Dr. R. S. Johnston, Kearney, secretary-treasurer; Dr. L. T. Sidwell, Kearney, delegate. Two papers were given by Drs. L. M. Stearns and Dr. C. H. Gibbons.

The **Gage County Medical Society** held its meeting January 14, Dr. J. J. Snipes, Lincoln, gave a paper on Dermatology. A banquet followed the meeting.

On January 26, The Queen City Dental Society entertained the Gage County Medical Society at a dinner. There were toasts by the medicos and an Amos and Andy skit was rendered by two local boys.

The February meeting of the **Cheyenne-Kimball-Deuel County Medical Society** was held at the Taylor Hospital, Sidney, Monday, the second.

The entire evening was devoted to a paper on Spinal Anesthesia, presented by Dr. R. E. Roche of Sidney.

Following the evening program a lunch was served by Dr. J. R. Taylor.

—J. B. Pankau.

HUMAN INTEREST TALES

Dr. Victor E. Levine, Omaha, talked over WOW on Child Care.

The Lincoln health department has opened a prenatal clinic.

Damage estimated at $2,000 was sustained by Dr. S. McCleneghan, Omaha, by an upper story fire at his residence.

Dr. F. W. Wearne, Omaha, has gone to Europe and the Near East.

Dr. J. C. Kildebeck, a recent interne in Omaha, has located at Emerson.

Dr. J. A. Lanspa, formerly of Nebraska City, has located at Tecumseh.

Dr. W. W. Claybaugh, Union, was stricken with paralysis last month.

Dr. A. D. Cloyd, Omaha, has gone to Florida to recuperate from a recent illness.

Dr. Clyde Moore, Omaha, has recovered from a recent illness due to sinus infection.

Dr. F. P. Sucgang, Bushnell, has gone to New York for four months of postgraduate work.

Dr. Frederick W. Neihhaus, Omaha, spoke on Heart Disease before the Continental club last month.

Dr. William F. Kelley, Omaha, spoke before the Omaha Woman's club on Mental Hygiene recently.

Dr. and Mrs. A. F. Jonas, Omaha, spent February at San Antonio, also taking a trip to Mexico City.

Dr. V. W. Winkle, Norfolk, recently talked to the Parent Teacher association on The Child's Nervous System.

Dr. Charlotte A. Mitchell, a David City girl, is now senior physician at the Massachusetts state school at Belchertown.

Dr. G. W. Dishong, Omaha, spoke before the Business Women's Club on Nervousness and Its Prevention, last month.

Dr. H. L. Blosser, for the past few years located at Norfolk in association with Dr. C. E. Sayre, has gone east to practice.

Dr. W. R. Blume, whose family home is at Emerson, has located at Minden and will be associated with Dr. H. S. Andrews.

Dr. Samuel Z. Saier, otolaryngologist, connected with Washington University, St. Louis, visited his parents in Omaha recently.

Dr. Ralph L. Schroeder, who has been medical director of the Douglas County hospital for the last year, has located at Osceola.

Allocation to Lincoln of a reserve station hospital unit was announced by Dr. Czar C. Johnson, colonel in the officers reserve corps.

Before the Pre-Medic club of the Kearney Teacher's college Dr. O. D. Johnson gave an address of The Physiology of Abdominal Surgery.

Dr. F. W. Vaughn, formerly of Hay Springs, has located at Gordon. He had conducted a small hospital at Hay Springs and will open one at Gordon.

Dr. Paul Harrison, medical missionary in Arabia, is in Nebraska on a leave of absence and spoke at a number of University gatherings in Lincoln lately.

Dr. Frank J. Condon, for the past three years connected with the Grand Island clinic, has located at St. Paul in succession to the late Dr. Frank S. Nicholson.

Dr. L. H. Webb, medical officer in charge of the Veterans hospital at Lincoln, has been elected an honorary fellow of the British Royal Institute of Public Health.

The veteran Dr. W. O. Bridges, beloved of the entire profession, suffered a fracture of the pelvis in a fall on his bedroom floor recently. Reports up to date of going to press are that his condition is satisfactory.

Dr. C. P. Wagner of the Class of '28, University of Nebraska College of Medicine, is now an instructor in the department of Psychiatry and Mental Hygiene in Yale Medical School, New Haven, Conn.

The Veterans hospital at Lincoln announces the following assignments: Dr. C. L. Magruder, clinical director; Dr. Grover C. Kirk, surgical staff; Dr. Joseph S. Green, eye, ear, nose and throat department.

Drs. F. W. Johnson and H. E. King, Fullerton, spoke before the local Lions club on the need of cooperation in the prevention and spread of contagious diseases. They also stressed the dictum that it is better to keep the schools open and have daily inspection than to close the schools.

THE HOUSE BY THE SIDE OF THE ROAD

There are hermit souls that live withdrawn
In the place of their self-content;
There are souls like stars, that dwell apart,
In a fellowless firmament;
There are pioneer souls that blaze their paths
Where highways never ran—
But let me live by the side of the road
And be a friend to man.

Let me live in a house by the side of the road,
Where the race of men go by—
The men who are good and the men who are bad,
As good and as bad as I.
I would not sit in the scorner's seat,
Or hurl the cynic's ban—
Let me live in a house by the side of the road,
And be a friend to man.

I see from my house by the side of the road,
By the side of the highway of life,
The men who press with ardor of hope,
The men who are faint with the strife.
But I turn not away from their smiles nor their tears,
But parts of an infinite plan
Let me live in a house by the side of the road
And be a friend to man.

I know there are brook-gladdened meadows ahead
And mountains of wearisome height;
That the road passes on through the long afternoon
And stretches away to the night.
But still I rejoice when the travelers rejoice,
And weep with the strangers that moan,
Nor live in my house by the side of the road
Like a man who dwells alone.

Let me live in my house by the side of the road—
It's here the race of men go by.
They are good, they are bad, they are weak, they are strong,
Wise, foolish—so am I;
Then why should I sit in the scorner's seat,
Or hurl the cynic's ban?
Let me live in my house by the side of the road
And be a friend to man.

—Edmund Vance Cheney.

OLD-FASHIONED COURTING

Last night we got to talking of the dear old long ago
When all our wives were sweethearts and every man a beau.
We had no automobiles then. The trolley lines we rode
And always that last car at night of lovers bore a load.
But after seeing Nellie home in weather foul or fine,
Ere I should reach my dwelling place a four-mile walk was mine.

Those golden days were full of thrills our youngsters never know,
It is no trick for them to take their sweethearts to a show.
But when we sought the theater an early start it meant
Because the fastest trolley car but very slowly went.
Then getting home was difficult, the schedule I recall:
Past midnight was one car an hour, and sometimes none at all.

I dared not step inside her door nor linger long to spoon.
That lonely all night Trumbull car would pass the corner soon.
And if I stay to say good-by, the warning gong I'd hear
And get there just in time to see that trolly car disappear.
But little did it matter then. I'd walk four miles or more
To earn those few glad minutes with Miss Nellie at the door.

Now seldom is a footstep heard along the walks at night,
This is an automobile age and speed is youth's delight.
The dads and mothers shake their heads as youngsters stay out late,
"It was not so when we were young!" they very truly state.
Of course not. Times were different then and distances were far
And dreary were those long walks home for us who missed the car.

—Edgar A. Guest.

SOME NEWER REMEDIES IN TREATMENT OF PERNICIOUS ANEMIA

Raphael Isaacs and Cyrus C. Sturgis, Ann Arbor, Mich. (*Journal A. M. A.*, Aug. 23, 1930) assert that dried, defatted hog stomach may be used as a therapeutic agent in inducing and maintaining a remission in patients with pernicious anemia. A remission may be induced with dried material (15 Gm.) corresponding to 100 Gm. of fresh stomach, and the remission may be maintained with 7 Gm. of this material. However, a safe clinical dosage is 10 Gm. for each million red blood cell deficit in the red blood cell count. The maintenance dose is 10 Gm. from five to seven times a week. So far no gross differences have been noted in the clinical features of the liver-induced remission and that after stomach therapy.

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SURGICAL TREATMENT OF NEURITIS AND NEURALGIA*

J. JAY KEEGAN, M. D.,
Lincoln, Nebr.

Pain is the symptom which most commonly sends people to the doctor for relief. The pain of neuritis and neuralgia is recognized by its intermittent sharp stabbing character, like electrical shocks, radiating to the area of sensory distribution of a nerve. There is no clear distinction between neuritis and neuralgia although, strictly speaking, neuritis is an inflammation of a nerve, while neuralgia manifests itself by similar pain but without demonstrable nerve pathology.

It perhaps would be well to preface the clinical discussion of special forms of neuritis and neuralgia by a brief presentation of the anatomical course of the nerves which carry pain sensation. The sensory nerves are divided into several functional varieties which have different endings and traverse different regions of the spinal cord to reach the brain, such as those for pain, touch, and position. A peripheral nerve trunk usually is formed by a union of both sensory and motor fibers; it enters into the formation of a nerve plexus near the vertebrae and is realigned into segmental nerve roots which pass through the intervertebral foraminae. This por-

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*Read before the Nebraska State Medical Association, Lincoln, Nebraska, May 13, 1930. From the Division of Neurological Surgery, University of Nebraska College of Medicine.

tion of the nerve is called the funiculus or nerve root, but is to be distinguished from the posterior and anterior nerve roots of each spinal nerve, which represent the sensory and the motor components, respectively. On the sensory root is a ganglion, near the intervertebral canal. The sensory root enters the posterior horn of the spinal cord, from which there is a redistribution or subdivision of the sensory nerve fibers. The pain fibers cross to the opposite side over an interval of about five vertebral segments and are collected into a nerve tract which is located in the anterolateral region of the spinal cord. The pain fibers which come from the lower spinal cord segments remain most superficial in this tract as it ascends to end in another ganglionic relay station, the thalamus of the mid-brain. The nerve fibers which carry the sensations of touch and temperature likewise cross in the spinal cord but ascend in an anterior tract somewhat separate from the pain fibers. The nerve fibers for position cross and ascend in the posterior columns of the cord.

Neuritis sometimes affects only the motor nerves, hence does not give rise to pain. Other forms of neuritis affect predominantly the nerves which carry the sense of position, as in tabes dorsalis. Neuritis which causes pain must involve the pain fibers somewhere along their course and it is desirable to determine the location and nature of the process which is causing the irritation. The commonest site of nerve irritation as at the nerve endings, where the pain is limited and the local inflammatory process quite evident. Low-grade buried infections are more liable to penetrate into the nerve sheath and set up an associated true neuritis or neuralgia. Occasionally infection from some distant focus settles in a nerve trunk, just as it may localize in a joint, muscle, heart, kidney, or other specialized tissue. Then the diagnosis of neuritis is more evident, the swollen and tender nerve may be felt and the pain has a wider radiation to the area of sensory distribution of that nerve. Irritation from some neighboring pathological process may be responsible for neuritis, as a contracting scar or tumor pressure. If the lesion is in the region of the nerve plexus, the term plexitis may be applied.

A most important localization of nerve irritation is at the intervertebral foraminae, where the nerve roots pass through bone canals of variable size. If one would believe the chiropractors and osteopaths, pinching of nerves at this site accounts for most body ailments. However, when there is demonstrable nerve pressure at the intervertebral foraminae. symptoms of localized neuritis appear, and not vague general complaints. Vertebral spondylitis and malignant metastasis are the commonest causes of narrowing of the intervertebral canals. Vertebral dislocation rarely occurs without extensive bone damage demonstrable by x-ray.

Localization of nerve inflammation in the sensory ganglia is called ganglionitis and gives rise to an herpetic eruption of the skin over the area supplied by the nerve roots involved, known as herpes zoster. Even herpes simplex, so commonly seen in pneumonia and colds, may represent an extension of the primary naso-pharyngeal infection along the fifth nerve branches to the gasserian ganglion. Radiculitis is the name applied to inflammation of a sensory nerve root proximal to its ganglion. It is most characteristically found in the root pains of tabes dorsalis. Nerve roots also are affected by the pressure of spinal cord tumors, so that distant radiating pain is one of the earliest symptoms of this trouble before spinal cord compression occurs. Pressure and inflammation of the spinal cord affect the anterolateral pain tract, with crossed pain radiation or sensory loss in the opposite lower extremity if the lesion is unilateral. This condition is called myelitis. Spinal cord tumors and myelitis in the early stages frequently are misdiagnosed arthritis or neuritis and operations performed for the removal of focal infection, without benefit. Likewise most tabetics with root pains have had one or more abdominal operations before the diagnosis of tabes is made. Finally, an inflammatory process or encephalitis may involve the thalamus, the great sensory center of the brain and give rise to a peculiar syndrome of psychic pain.

With this brief survey of the various localizations of neuritis, I shall take up in more detail a clinical consideration of the commonest conditions met in practice. The superficial inflammations which affect the nerve endings need not be discussed for they are too numerous and varied to be able to cover adequately and require only local treatment. Likewise focal infections which are responsible for a considerable amount of neuritic and neuralgic pain, require thorough general medical and surgical treatment before any surgery should be directed to the affected nerves themselves. But there are many cases which do not respond to local or general treatment, and the pain becomes intolerable, requiring morphine for relief. It is in such conditions that special procedures directed to the nerves may be warranted, if they offer relief.

SCIATIC NEURITIS

Sciatica is the commonest form of neuritis, but rarely can a swollen and tender sciatic nerve be felt or is the nerve affected in this manner. Sciatic pain comes from a great variety of sources. Pelvic pathology must always be ruled out. Pain from pelvic inflammation or tumor usually is bilateral and not of typical sciatic radiating character. The commonest source of true sciatica is lumbo-sacral bone pathology.(2) The junction of the fifth lumbar vertebra with the sacrum is a particularly vulnerable point. This union of the mobile vertebral column with the immobile sacrum must carry the weight and movements of the trunk above. The sacrum is set at a considerable posterior angle so that normally there is a tendency to an anterior subluxation or shearing. With abnormal lordosis and increased sacral angle the tendency is greater. The posterior portion of the fifth intervertebral disc may be compressed so that the posterior margin of the vertebral bodies come almost in contact. The dislocated disc may bulge posteriorly beneath the dura of the spinal canal and even produce paralysis of the lower extremities by pressure on the spinal nerves.

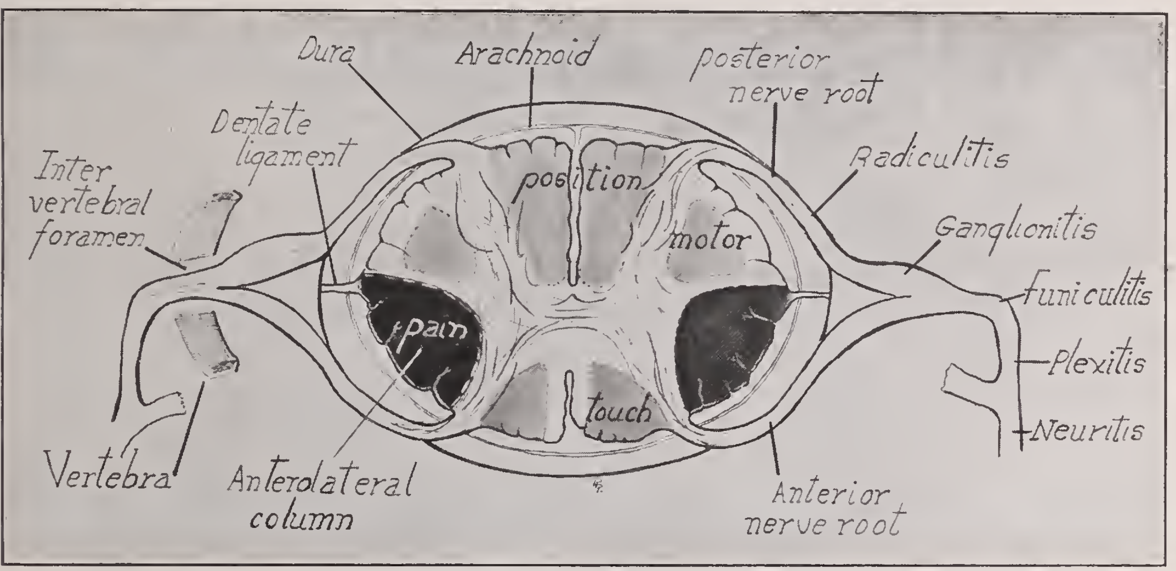

Figure 1. Diagrammatic cross section of spinal cord showing chief sensory and motor tracts with relations of nerve roots and incision of cordotomy.

Bone trauma at this articulation leads to spondylitis, with lipping and spurs at the vertebral margins. The fifth lumbar nerve is particularly susceptible to such bone change, for it is the largest nerve entering the lumbo-sacral plexus, and it emerges through the smallest intervertebral foramen between the fifth lumbar vertebra and the sacrum. Accordingly it is the nerve oftenest affected by bone displacement or bone proliferation which narrows this foramen. The result is fifth lumbar nerve root pain which radiates down the sciatic nerve to the lateral side of the ankle. There is in many cases an actual sensory loss in the area of skin supplied by this root, which. with loss of the achilles tendon reflex, is diagnostic of root involvement at the intervertebral foramen. The sacro-iliac joint has no intimate relation to the lumbosacral plexus of nerves and only in a reflex manner could pathology there account for typical sciatic neuralgia. Likewise sacralization of the transverse process of the fifth lumbar vertebra would have little direct influence on the lumbosacral nerves, except as it might be associated with an arthritic process at the fifth intervertebral foramen.

The treatment of sciatic neuritis taking origin in the fifth intervertebral foramen is considerable of a problem. Rest in bed, heat and later immobilization by plaster cast for considerable time may give relief, but such treatment is time consuming and often fails. Sacral epidural injections of novocaine and saline solution through the sacral hiatus at the end of the spine offer relief in a considerable per cent of cases, more particularly those in which anatomical evidence of fifth root involvement is not very definite. Such treatment would seem to be preferred to prolonged immobilization by cast or surgical procedures directed towards removal of bone pathology. The injections are made with a 19 or 20 gauge spinal puncture needle, inserted 5 to 6 centimeters through the sacral hiatus. Note should always be made of cerebrospinal fluid drainage before injection, and the needle withdrawn slightly if present. Fifty cubic centimeters of a 0.5% novocain in normal saline solution are injected slowly and repeated every 48 hours for three injections if necessary for relief. If this treatment fails surgery may be indicated to relieve evident bone compression of the fifth lumbar nerve root.

CHORDOTOMY

Occasionally unendurable pain of sciatic or pelvic origin is met, which cannot be relieved by ordinary medical or surgical treatment. Such pain most often comes from inoperable malignancy with vertebral bone metastasis. These patients require enormous doses of morphine and even this fails at times. In this situation a comparatively simple operation upon the spinal cord, called chordotomy, will give complete and permanent relief in a high per cent of cases. Chordotomy consists of removal of two or three dorsal spinous processes and careful section of the antero-lateral pain tract in the spinal cord. A very small incision is required and the risk of the operation is small. The pain fibers alone can be sectioned so that there is no motor disturbance and a large share of touch and temperature sensation is preserved. This operation should be resorted to much oftener than it is for it will convert a miserable, painful existence with morphinism into a condition of comfort. Occasionally the operation is indicated in uncontrollable tabetic root pain.

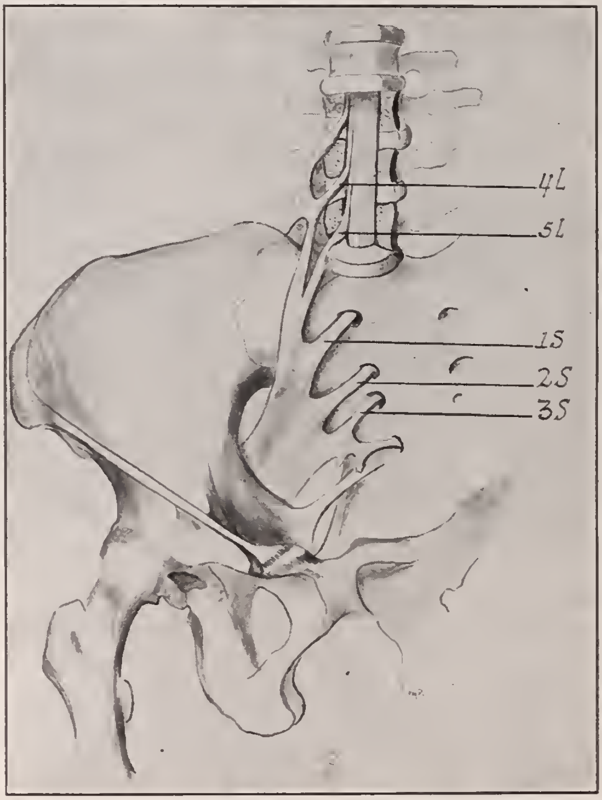

Figure 2. Relation of lumbosacral nerve plexus to pelvis (Danforth and Wilson, Jour. Bone and Joint Surg., 1925, xxiii, 115).

BRACHIAL NEURITIS

The brachial plexus of nerves is subject to the same inflammation, trauma and pressure as the sciatic. Infections here usually are secondary to respiratory infection. The pain of an acute brachial neuritis spreads down to the arm and hand and may be most severe, abolishing sleep and leading to contractures and fixation at the shoulder joint if continuing for many weeks. Trophic changes appear in the hand, as swelling, flushing and sweating. There is no surgical form of treatment for this neuritis. Salicylates, radiant heat and diathermy are of some benefit. Respiratory infections should be cleared up if possible.

A cervical rib occasionally is responsible for pain and trophic changes along the inner side of the forearm and hand. The first thoracic nerve is involved as it is required to rise higher into the neck over the rib to join the brachial plexus and develops pressure as it crosses. Surgical removal of the rib is indicated or section of the attachment of the scalenus anticus muscle if that seems sufficient to free the nerve tension.

Fracture-dislocation of the fifth or sixth cervical vertebra, which is the common lesion in traumatic forcible forward flexion of the neck, constantly involves the nerve roots at this level and gives rise to paralysis and radiating pain down the arm. The spinal cord may be seriously injured at the same time. Prompt manual reduction of the dislocation, with maintenance by cast and adequate traction to prevent pressure on nerve roots during healing, is the best treatment and preventative of nerve root pain from this origin. It is the bone pressure and neuritis at the intervertebral foraminae which gives rise to the pain, for brachial plexus injuries without fracture dislocation, as in forcible separation of head and shoulder, rarely cause continued pain.

A similar fracture dislocation may occur at the level of the second cervical vertebra. Here, immediate death usually occurs from high cervical cord compression and medullary involvement. However, this is not always the case for there may be no cord symptoms and the stiff neck is thought to be only a strain. X-ray demonstration of this region is difficult on account of interference by the base of the skull. There is involvement of the second cervical nerve root on one or both sides which gives rise to pain radiating to the back of the head and ear. Prompt recognition of the bone lesion is highly important, with manuel reduction and prolonged traction. Two case histories are given to emphasize the unfortunate sequelae of lack of early recognition and treatment.

Case No. 1: V. L., age 36—University Hospital No. 29259.

History—In 1913 patient fell from a second floor window and struck on his buttocks. He resumed work one-half hour later without much resultant disability except some back pain a few months later. In 1916 he fell down some stairs, without a recognized neck injury. His back pain was increased and he wore a sacro-iliac belt but was not disabled until 1926. He gave up work February 1927 on account of increased pain in his back and hips. In the fall of 1927 he began to have pain in his neck, with lessening of back pain. This increased in severity, radiated to the right occiput and ear and his neck became stiff. He entered the University Hospital in April 1928, and was treated for cervical spondylitis, by removal of foci of inection, protein injection, physical therapy, neck traction and fixation by cast. X-rays did not reveal the high cervical fracture dislocation, but showed bone proliferation. He received little relief and required morphine for the severe sharp shooting pain in the right occipital and posterior cervical region. In August 1929 a slight right sided weakness and increased reflexes were noted, suggestive of spinal cord compression. A high cervical laminectomy was performed September 7, 1929, chiefly to cut the upper cervical sensory nerve roots on the right side to relieve the neuralgic pain, but also for spinal cord decompression. Following this operation, in which the arches of the upper three cervical vertebrae were removed and the right 2nd, 3rd and 4th sensory roots cut, an almost complete paraplegia developed with serious medullary and respiratory disturbance. The patient survived and began to very slowly recover use of his extremities. A re-examination of the old x-rays revealed a marked anterior dislocation of the first cervical vertebra forward on the second, which had not been noted before, and explained the serious post-operative compression of the spinal cord at the foramen magnum by the posteriorly displaced odontoid process. As soon as the patient's condition permitted, on November 12, 1929, the posterior border of the foramen magnum was removed, with resultant more rapid recovery in motor power. However, progress has been slow and he still remains rather spastic, although able to be about with a cane. He was relieved of his right occipital neuralgic pain following the first operation.

Interpretation—Although the exact date of this cervical dislocation is not known, all of the symptoms and the complications which followed the first surgical interference can be explained on the basis of this unrecognized lesion. If the posterior border of the foramen magnum had been removed at the first operation, the post-operative paraplegia probably would not have occurred. Considerable permanent damage has now occurred in the cord and the degree of recovery is problematical.

Case No. 2—Mrs. R. H., age 56—University Hospital No. 30825. There was a history of auto accident in May 1928, when crossing a ditch, the patient struck her head on the top of the car. She was unconscious ten minutes, then able to be up and about, but was unable to rotate her head or lie in bed for six weeks on account of pain and stiffness in her neck. The pain gradually disappeared, but stiffness remained. On Sept. 9, 1929, while getting out of bed, she had a sudden severe pain in her upper neck with a grating sound or snap, collapse and followed by sharp shooting pain in the left side of her neck. Five days later had another sudden pain, followed by a massive swelling on both sides of her neck, which pressed upon her throat and made swallowing difficult. She had a throbbing pain in this swelling and it was needled but nothing obtained. The swelling later localized on the left side and an incision was made for drainage but nothing found. The neuralgic pain continued and she entered the University Hospital December 8, 1929, for relief.

Examination—There was a very tender area on the left side of her neck just lateral to the second cervical vertebra. Rotation of the neck was not possible on account of pain and stiffness. Neurological examination was negative except for a left cervical anesthesia, the result of previous surgical incision. X-rays showed an old fracture dislocation of the second cervical vertebra, with anterior displacement of the second on the third.

Treatment and Progress—Head traction was applied with relief from the pain and patient was dismissed December 22, 1929, with a plaster supportive collar. Pain recurred and she re-entered the hospital January 23, 1930. Head traction was again applied but was not tolerated well and she developed a rapidly progressive paraplegia below the level of the third cervical segment. On March 13 a high cervical laminectomy was done in an attempt to relieve the evident spinal cord compression, but at this late stage of beginning medullary failure death resulted twenty-four hours later.

Necropsy Report—There was an evident old compression ring on the spinal cord at the level of the second cervical vertebra. This bone was very cancellous and appeared narrowed and displaced on the left side. The left vertebral artery in this area remained only as a fibrous cord while the right was normal.

Interpretation—An unrecognized fracture of the second cervical vertebra was treated by palliative measures for sixteen months, when a secondary fracture dislocation occurred. Involvement of the left vertebral artery resulted in rupture and deep cervical hemorrhage. Left neuralgic pain followed from compression of cervical nerves, and was relieved by head traction. Pain recurred under a supportive neck cast and unsuccessful traction was followed by spinal cord compression and paraplegia. A decompressive laminectomy was undertaken too late for other than a fatal outcome.

TRIFACIAL AND GLOSSOPHARYNGEAL NEURALGIA

Involvement of the cranial nerves is one of the commonest sources of neuritic and neuralgic pain. Much of the pain complained of in this region is atypical in character and originates in focal infection of the teeth, tonsils and nasal sinuses. This atypical pain is throbbing, pressing and continuous in character, with occasional sharp spasms. The source of the trouble often is difficult to locate and may be partly neurotic in origin. Conservatism should be exercised unless fairly definite evidence of offending focal infection can be demonstrated.

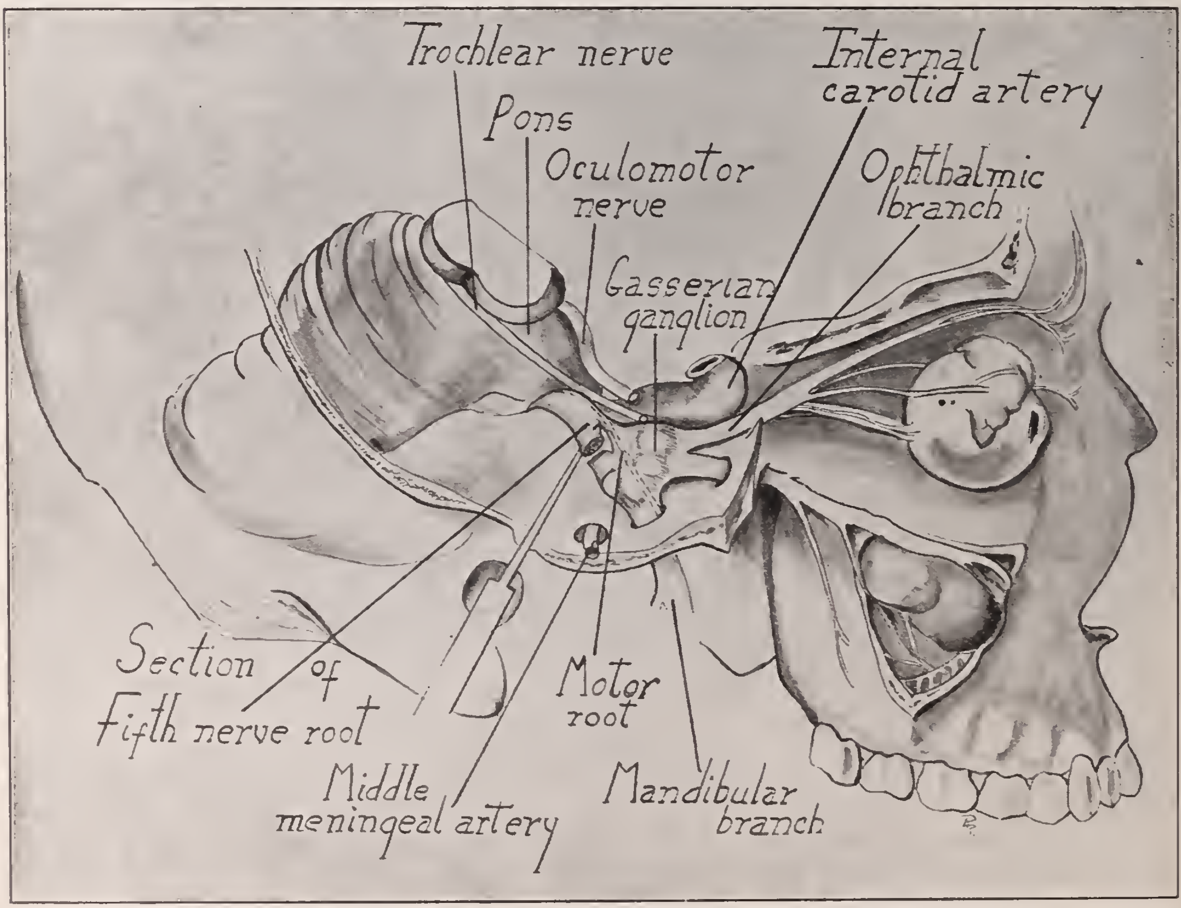

Figure 3. Anatomy of the region of the Gasserian ganglion to illustrate subtotal fifth nerve root section, with preservation of motor and ophthalmic portions. Modified from an illustration in an article by Dr. A. W. Adson.

Trifacial neuralgia or tic doloreaux should be distinguished from these atypical neuralgias. The fully developed intermittent paroxysms of terrific pain on one side of the face can hardly be confused with any other condition. Most significant is the absolute freedom from pain between paroxysms and the initiation of the pain by talking or eating. There is often a particular place or trigger zone on the lip, cheek or gum when moved or touched will bring on an attack. The patient becomes fearful of the recurrent paroxysms and loses weight from inability to eat. A series of attacks of varying severity will last from one to six weeks and then may cease abruptly for several months, only to recur as suddenly and with greater intensity.

It is a common story for such patients to have had all their teeth extracted, the tonsils removed and sinuses operated upon, but it is exceedingly rare that such procedures have any effect upon typical trifacial neuralgia, except as they may coincide with a natural cessation of an attack, in which case recurrence is invariable a few months later. The etiology of trifacial neuralgia is not known, but its almost constant primary limitation to the inferior and middle divisions of the fifth nerve suggests a dental origin. It is a disease of elderly persons, often with no remaining teeth. Frequently there is a history of onset which seems to be related to a complicated tooth extraction and the trigger zone is located at this site. Formerly it was thought that the disease process was located in the gasserian ganglion, but it is more probable that a sclerotic process involving the nerve endings is responsible, for avulsion or alcohol injection of the peripheral branches temporarily relieves the pain.

The treatment of trifacial neuralgia is now limited to two procedures, either alcohol injection of the branch affected at its exit from the skull or differential section of the root of the fifth nerve back of the gasserian ganglion. Nerve avulsion is no longer practiced, since the relief offered is of shorter duration than of the simpler alcohol injection. The technique of injection requires familiarity with the bone landmarks of the internal maxillary region and painstaking care to insure that the point of the needle is within the nerve sheath. Eighty-five per cent alcohol is used and one or two cubic centimeters injected, with resultant immediate anesthesia of the branch which lasts from six months to a year if successful. When sensation returns from nerve regeneration the pain usually recurs. It is not always possible to make a successful injection at the first attempt due to variation in anatomy and the necessity of intraneural injection. A second attempt will lead to 60% or 70% success. A third attempt in close sequence is not advisable on account of the danger of inflammation and necrosis. Repeated injections over long intervals may be made when the pain recurs, but the difficulties increase on account of the dense fibrosis which results. Alcohol injections should be chosen in very old persons who have only a few years life expectancy, and as a preliminary treatment in those patients who have been enfeebled by lack of food or who are not prepared to accept a more radical surgical procedure. Some patients tolerate repeated alcohol injections well while others are very much distressed over the failures and recurrences.

The operation on the root of the fifth nerve for permanent relief of trifacial neuralgia illustrates both the difficulties of neurological surgery and the progress which has been made in reduction of mortality and perfection of technic. Sir Victor Horsley first attempted an operative approach to the fifth nerve or Gasserian ganglion in 1886. This and subsequent similar procedures through the internal maxillary space and base of the skull carried such a high mortality that they had to be abondoned. A little later an approach was undertaken through the squamous part of the temporal bone above the zygoma. This likewise carried a very high mortality and complications, since attempts were directed towards removal of the ganglion, which resulted in severe hemorrhage and frequent trophic changes in the eye and face from ganglion irritation. In 1898 Spiller and Frazier established the fact that simple section of the root of the fifth nerve back of the ganglion was all that was necessary to give permanent relief from the neuralgia. Perfection in technic since that time has resulted in an operation which carries a mortality of less than half of one per cent and which permits preservation of the motor fibers to the muscles of mastication, and the ophthalmic sensory fibers which are so important in the preservation of corneal sensation. The operation still is technically difficult, particularly in very elderly persons with thin adherent dura, arteriosclerosis and hypertension, so that judgment should be exercised in selection of cases. But there should be no hesitation in choice of the operation in those sufferers of middle or early advanced age without complicating factors. The relief is immediate and permanent, with very slight sensory disability. A typical case of trifacial neuralgia with subtotal section of the root is reported.

Case No. 1—Mrs. J. W. J., age 56 years, Methodist Hospital, November 25, 1929. This patient had suffered intermittent sharp shooting pains for 13 years. The pain in the beginning radiated down the left lower jaw but lately has spread to the entire left face. She has had intervals of freedom from 1 to 2 months, but the present attacks have been many times daily for 10 months. Talking or eating starts the pain, and she has lost many pounds in weight from suffering and inability to eat. Operation was advised and performed November 27, 1930. The smaller motor root was separated on the under surface of the sensory root and about half of the sensory fibers were picked up on a hook and cut. There was little bleeding and the post-operative recovery was rapid. Herpes developed about the angle of the mouth but there were no other complications. She was sitting up in five days and left the hospital in a week. There was sensory loss in only a small area along the lower jaw and lip, with no corneal disturbance and no motor paralysis. Relief from pain was immediate and complete, with no recurrence.

Neuralgia of the ninth or glossopharyngeal nerve has only recently been clearly differentiated from trifacial neuralgia. It differs in the location of the trigger zone in the tonsillar fossa, its initiation more by swallowing than by chewing, and in the radiation of the pain to the ear and angle of the jaw. Cocainization of the pharynx and tonsillar area supplied by the ninth nerve will relieve the paroxysms of pain temporarily, and is an important diagnostic test. This nerve cannot be injected with alcohol on account of its intimate relation to the vagus, hypoglossal and spinal accessory nerves at the jugular foramen. Consequently surgical section of the nerve root is the only means of relief. This is performed through a unilateral cerebellar exposure with retraction of the cerebellum and section of the small ninth nerve filament within the posterior cranial fossa as it enters the jugular foramen beside the tenth nerve. Two typical cases of glossopharyngeal neuralgia have been met in the past year, one of which has been operated upon, with complete relief.

Case No. 4—Mr. L. B., age 42—University Hospital No. 30280. Patient entered November 11, 1929, complaining of excruciating attacks of pain in his left throat, radiating to his left ear and jaw, initiated by swallowing. His trouble began a year and a half ago as a gray patch on his left tonsil which was removed and diagnosed carcinoma. He was given radium treatment and an area sloughed out. About a year ago a small raised nodule appeared at the base of his tongue, was painful and felt as though a sharp foreign body were there. Two months ago this began to burn like fire and an electric cautery was used without relief. An attempted inferior maxillary nerve injection likewise gave no relief. When first seen he was suffering frequent spasms of terrific pain, and had lost 45 pounds in four weeks on account of inability to swallow without starting the pain. Cocainization of the left tonsillar fossa and lateral pharyngeal and lingual area supplied by the ninth nerve completely relieved the pain for about 30 minutes, and led to a definite diagnosis of glossopharyngeal neuralgia. A left cerebellar exposure was made under local anesthesia on November 21, 1929, and the ninth nerve easily exposed in the lateral recess and sectioned. There were no post-operative complications and the patient was completely relieved of his neuralgic pain.

SUMMARY

There is no clear distinction between the pain of neuritis and of neuralgia. Both are due to chronic inflammatory processes which affect the nerve at some part of its course. According to anatomical division, such inflammation is called neuralgia, neuritis, plexitis, funiculitis, ganglionitis, radiculitis, or myelitis, varying in location from the nerve endings to the spinal cord. The pain fibers in the spinal cord course is a separate antero-lateral tract, which may be sectioned in the operation of chordotomy for relief of intractable pain in the lower extremities, pelvis and abdomen.

Sciatic neuritis commonly is secondary to pelvic pathology, either tumors or lumbo-sacral subluxation. Rarely is the sacro-iliac joint responsible for true sciatic pain. The junction of the fifth lumbar vertebra with the sacrum is a particularly vulnerable point and slight displacement or bone proliferation is liable to cause pressure and irritation of the large fifth lumbar nerve root as it passes through its small intervertebral canal. Radiating pain and disturbed sensation in the skin supplied by this nerve root results. Treatment is directed towards relief of this irritation. Many cases without evident focal cause may be benefited by sacral epidural saline injection. Brachial and cervical neuritis are similarly associated with vertebral dislocations which involve nerve roots.

Trifacial neuralgia is a clinical entity, to be distinguished from other painful afflictions about the face by the complete freedom from pain between attacks. It very rarely is relieved by removal of focal infection. Operative procedures must be directed to the nerve itself. Alcohol injections are recommended in the very old, or as a preliminary measure. Repeated injections are unsatisfactory. Differential section of the root of the fifth nerve gives permanent relief without complications and with very little risk. Glossopharyngeal neuralgia is liable to be confused with trifacial neuralgia. It localizes in the tonsillar fossa and radiates to the ear. It can be relieved by section of the root of the ninth nerve within the cerebellar fossa.

SOME PRINCIPLES UNDERLYING THE TREATMENT OF HEART FAILURE*

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Since the days of William Withering, digitalis has been the favorite drug in the treatment of heart disease. During this period of nearly a century and a half the methods of administration of the drug, the indications and contraindications, the reputed actions, and so forth, have been ever changing; some variations have been advocated by each new generation of physicians. These constantly changing views regarding digitalis unquestionably have been potent factors in the confusion which exists, so that, at present this important therapeutic agent is one of those the use of which is most abused.

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The impression is fairly general, among physicians, that the establishment of a diagnosis of heart disease, regardless of type, state of cardiac function and so forth, demands the administration of digitalis. An impression of this sort is not only patently erroneous, but extremely dangerous, and is a direct implication that the clinician who employs the drug in this manner is entirely unfamiliar with its actions and rests content to exist in the age of empiricism. This statement is prompted by strong sentiments that I possess regarding the indiscriminate use of digitalis, the result not only of my own errors, but of observing the errors of other physicians.

This paper deals primarily with the treatment of heart failure and I wish to limit myself to a consideration of only a few agents employed for its relief, agents that at present occupy an eminent place in therapeutics. In order to present clearly the rationale of present-day methods of treatment it seems advisable to consider the basic mechanics of heart failure and the variations that occur under different conditions, and to analyze the known effects of the measures employed in altering these abnormal circulatory states.

In considering heart failure it is necessary to keep in mind the mechanics of the normal circulation, and the forces that prevail to permit circulatory coordination and to maintain the proper balance between the arterial and the venous flow.

For many years it was believed that cardiac output was the chief factor influencing venous pressure and that this influence was exerted by varying the exchange of blood between the veins and the arteries. However, more recent work(3-4) seems to indicate that venous pressure is an important factor in the regulation of cardiac activity, thereby reversing the previously accepted view. Within the limits of the range of physiologic adaptation, increased venous return results in increased cardiac output, whereas diminished venous return, with lowering of venous pressure, is likely to result in diminished cardiac output. When the venous return to the heart is increased, more blood tends to flow into the ventricles, the duration of systole is prolonged, and the residual blood at the end of systole may or may not be reduced. The heart is capable, within certain limits, of responding to increased load by increased work; the limit of response is what is commonly known as the cardiac reserve. Thus, under normal conditions a regulating mechanism exists that tends to stabilize venous pressure.

Failure in function of the heart is an involved problem at this time, owing to the limited knowledge regarding its metabolism. However, a few very definite facts are known. In the first place, the cells of the myocardium are dependent on oxygen, and lowering of the amount of oxygen available, which is designated as anoxemia, results in profound effects on cardiac function. The effect of anoxemia in general is similar. The need of oxygen is inherent in the physiologic processes of all living tissues, and although a range of variability exists, encroachment on the physiologic limits results in disturbance of function. A greater requirement for oxygen occurs when events transpire that accentuate the physiologic reactions. In the heart, added load creates an increased demand for oxygen which is proportionate to the added burden.

When the heart is the seat of structural disease variable degrees of myocardial anoxemia are readily produced. In coronary sclerosis, for instance, in which the elasticity of the arterial walls is diminished or is entirely absent, and in which the caliber of the arterial lumen may be considerably reduced, inadequate blood supply may readily lead to oxygen want of the muscle cells of the heart.

In most cardiac lesions, such as stenosis and insufficiency, or in disturbance of rhythm, such as may occur with auricular fibrillation, a tendency exists to reduce the minute volume of the circulating blood. With reduction of the minute volume no direct relationship with possible deficiency in pulmonary ventilation exists for sufficient oxygen is present in the alveolar air, and the saturation of the arterial blood is, therefore, normal. However, the minute volume of the circulation is reduced. This results in reduction of the total content of oxygen in the tissues. Thus, the first stage of a vicious cycle is seen. With actual cardiac failure, when pulmonary congestion and pulmonary edema occur, an additional factor comes into operation; namely, actual reduction in respiratory volume, resulting in imperfect pulmonary ventilation. Thereby anoxemia is increased by reducing the content of oxygen in the arterial blood. Here the completion of the vicious cycle is observed.

It is well known that the heart muscle, as a storage depot for glycogen, ranks second to the liver; its normal content of glycogen, in proportion to the weight of the organ, is greater than that of any other depository of the body. It plays an important part in the metabolism of the myocardium(1-7) and undoubtedly the part it plays here is similar to that which it plays in voluntary muscle; it is a vital source of energy. Evidence exists that heart failure is attended by a deficiency of glycogen in the myocardium, for it has been frequently demonstrated that intravenous injection of sterile hypertonic solution of glucose results in striking improvement in cardiac function.

In addition to these factors, the accumulation of waste products of metabolism in the heart muscle unquestionably exerts an important influence in the disturbance of cardiac function, an influence similar to that seen in the fatigue processes of voluntary muscle. Much is yet to be learned regarding the metabolism of cardiac muscle; knowledge will go far in advancing treatment.

Heart failure supervenes when the initial load on the ventricles, as indicated by the venous pressure, surpasses the limit of the myocardium to respond to added load by increased work. The fibers stretch beyond their normal limits and the resulting contractions become diminished and inefficient.

The heart appears as a most remarkable organ when one realizes that under conditions of normal life its activity is almost endless; it performs its function day and night, year in and year out, and rests only between beats. Its total expenditure of energy and work during the fulfillment of an average existence is almost beyond comprehension. No machine ever constructed has been able to imitate the heart in achievement or in length of service. It must be assumed that the heart is endowed with a unique and specially adapted metabolism that distinctly distinguishes it from the other components of the body. Amazement is frequently expressed that the heart of a certain patient has failed, whereas, more rightly, amazement should be expressed as to how the heart has been able to carry on as long and as efficiently as it has.

The relationship of certain heart lesions to heart failure, and the manner in which the influence of the lesions is exerted. may now be considered. In order to simplify the ensuing discussion, the circulation may be considered as being comprised of three component units; namely, the pulmonary circulation, and the systemic circulation, with the heart interposed between them.

Lesions of the heart, according to their situation, increase the burden of the right side or of the left side of the heart, as the case may be, and in certain instances both sides may share the burden. It is a well known fact that mitral disease, particularly mitral stenosis, exerts its primary influence on the right ventricle. Other lesions that behave similarly are sclerosis of the pulmonary artery and certain congenital anomalies and extracardiac diseases such as emphysema and extensive pulmonary fibrosis which interfere with the circulation of the lungs.

The ventricle responds to increased burden by hypertrophy. Up to a certain point this may result in overactivity of the chamber, and the right ventricle may deliver more blood to the lungs than the left ventricle can readily receive and can deliver into the arterial circulation. This status presumes competence of the tricuspid and the aortic valves. Thus, the pressure in the pulmonary circulation becomes increased and may lead to venous stagnation, pulmonary congestion, pulmonary edema, or gross hemoptysis. If failure of the left ventricle occurs while the right ventricle still remains competent or overactive, the events described occur more readily and often to a more marked degree.

Hypertrophy and dilatation usually are concomitant events, and, therefore, in the enlarged chamber dilatation is destined ultimately to dominate. Dilatation of cardiac muscle beyond physiologic limits results in dynamic inefficiency, rapidly leading to failure. When the right ventricle fails, the tricuspid valve becomes incompetent, and venous stagnation of the systemic circulation occurs, with the well known syndrome of hepatic congestion, congestion of other viscera, edema of dependent portions of the body and ascites. Not infrequently, when this status obtains, the embarrassment to pulmonary circulation becomes markedly relieved owing to the reduction of intrapulmonary pressure resulting from diminished right ventricular output.

In considering the left ventricle the changes which result from failure are ultimately similar but occur in reverse order. Failure immediately results in diminished output, so that less blood is propelled into the arterial circulation in a given unit of time. While the right ventricle remains competent it continues to pump blood into the pulmonary circulation, but the left ventricle, if it is incompetent, cannot distribute this volume of blood. Therefore, intrapulmonary pressure becomes increased, venous stagnation occurs, and again pulmonary congestion, pulmonary edema, or gross hemoptysis occurs. Insufficiency of the mitral valve, a frequent accompaniment of left ventricular dilatation, still further exaggerates these events.

Ultimately the right ventricle fails, and failure of the systemic circulation occurs.

Left ventricular failure occurs preeminently in hypertensive heart disease, aortic insufficiency, aortic stenosis, coronary sclerosis, heart failure consequent on myocardial infarction, adherent pericarditis and some cases of congenital heart disease.

The chief problem in the treatment of heart failure is concerned with the attempt at restoration of relatively normal and adequate function. The first and all-important measure directed toward this purpose is absolute rest. Any departure from this principle is not only hazardous, but invariably results in therapeutic failure. If retention of fluid exists, the intake of fluid must be reduced. The degree of reduction is an individual problem, but the average intake of measurable fluid is usually about 1200 cc in twenty-four hours. The reason for this procedure is evident, as the administration of the accustomed quantity, or of an excessive quantity, of fluid simply adds to the retention in the tissues. Marked reduction of salt in the diet often aids in diminishing thirst and enables the patient more readily to adapt himself to restriction of fluid.

My consideration of therapeutic agents in this discussion is limited to digitalis, the mercurial diuretics, ammonium nitrate, and venesection.

Of the many actions that have been accredited to digitalis, all but two are either inconstant or secondary effects, or do not exist at all. Digitalis is known to have certain actions in man, presuming, of course, that the dosage is adequate to permit pharmacologic response. Digitalis increases the amplitude of ventricular contraction by its direct action on the myocardium(2). It slows ventricular rate, chiefly in the presence of auricular fibrillation, by vagal stimulation and by direct action on the auriculoventricular junctional tissues. Diuresis frequently occurs through improvement of the general and renal circulation, and not by stimulation of the renal epithelium, as formerly was believed. An inconstant effect on blood pressure occurs.

Additional actions of digitalis have been demonstrated in experimental animals but not in man. In the experimental animal diminution in cardiac output, increase in myocardial tonicity, and diminution in cardiac dilatation have been demonstrated(5).

To illustrate the actions of the drug that are definitely known to exist in man an example might be given of a case of heart failure, comprising marked dyspnea, cyanosis, engorgement of the liver, edema of dependent portions of the body, and ascites. The cardiac condition is the result of mitral stenosis, hypertension, or other disease; the heart is hypertrophied and dilated, and very rapid and irregular ventricular action is present. The count at the apex of the heart is about 150 beats each minute, whereas only half that number are detectable in the radial artery. The systemic circulation is engorged, venous pressure is increased, the right ventricle has failed, and perhaps, also, the left. The pulmonary circulation is engorged.

In this typical case is the most outstanding indication for adequate administration of digitalis. As previously stated, the failing ventricle is not capable of expelling the normal quantity of blood with each contraction, for the amplitude of contraction is diminished and contraction is inefficient. Thus, the first action of digitalis becomes applied; namely, its direct action on the myocardium to cause increase in ventricular contraction. However, coincidental with this effect is the second action, slowing of the ventricular rate, particularly when auricular fibrillation is present. This occurs through vagal stimulation and by direct action on the auriculoventricular conducting tissues. Thus, within a period of twenty-four to twelve hours or less, the patient may present quite a different picture; the syndrome of congestive failure may be much less marked, the heart rate may be much slower, and the discrepancy between radial and apical count may be eliminated. Diuresis frequently but not always occurs.

If, however, the hypothetical patient exhibits rhythmic cardiac action that may be only slightly accelerated, or even slow, one of the chief actions of digitalis is denied its opportunity to participate. One cannot deny that in such a case administration of digitalis may be followed by some cardiac slowing but when this effect is present it is minimal, and it cannot be relied on to occur. The other action of the drug, that is, increasing the amplitude of ventricular contraction, unquestionably results in some benefit.

The administration of digitalis in cases in which the signs of heart failure are not present is virtually limited to two conditions. The first is the condition after heart failure, in which the drug is administered with the idea of holding the heart under its influence by so-called maintenance doses. In these cases, as in cases of active failure, the best results are obtained if auricular fibrillation is present. The second condition is seen in cases of auricular fibrillation in which the patient has not as yet experienced heart failure, and in which the drug is given to control the ventricular rate.

The exhibition of digitalis under other conditions than those named is without foundation, is purely empiric, may result in harm, and should be discouraged. Under any condition, the administration of the drug should be discontinued before the advent of toxic signs. Toxic symptoms, such as nausea and vomiting are well known. In addition, there are phenomena referable to cerebral intoxication; namely, giddiness, disturbed color vision, delirium, and coma. This condition is extremely dangerous and not infrequently results in death.

Since the introduction of the mercurial diuretics, an unusually efficient method has been available for the elimination of cardiac edema fluid. Novasurol (merbaphen) was introduced by Zieler in 1917, as a mercurial preparation for the treatment of syphilis. Three years later, Saxl and Heilig called attention to its remarkable diuretic action in cardiac edema. More recently, salyrgan (mersalyl) has been available, also a remarkable preparation. Novasurol is a double salt of sodium mercurichlorphenyl oxyacetate with diethylbarbituric acid. It contains 33.9 per cent of mercury. Salyrgan is prepared by the action of mercury acetate and methyl alcohol on salicylallylamido-o-acetic acid and subsequent conversion to the sodium salt. It contains, when dried to a constant weight, 39.6 per cent of mercury in nonionizable form.

The mercurial diuretics apparently act by mobilizing sodium chloride and water in the tissues and causing their excretion in the urine. The action presumably occurs on both the tissues and the kidneys. Diuresis usually begins within a few hours after intravenous administration of the drug, and invariably the maximal effect of the single injection is attained within twenty-four hours, and may result in the excretion of 3,000 to 8,000 cc of urine. This is usually followed by reduction of urinary output, frequently to the level before administration of the mercurial preparation. Injections may be given at intervals of two or four days. The initial dose is 1 cc, but succeeding injections of 2 cc are the rule. The prompt release of a marked amount of cardiac edema fluid usually dramatically modifies the syndrome of heart failure in a very short time. The load of the heart becomes relieved owing to lessening of peripheral resistance caused by the fluid. The general circulation improves, venous stagnation disappears, venous pressure falls, oxygenation of tissue becomes more adequate, and a great change in the patient's condition occurs. Mercurial diuretics are contraindicated in acute glomerulonephritis and in enteritis. One must be careful not to confuse the urinary evidences of heart failure with those of nephritis.

Not infrequently, the restoration of cardiac function occurs without the administration of digitalis or other drugs other than sedatives. These last are used to promote rest and sleep.

Sometimes, release of edema fluid by the use of the mercurial diuretics is slow and incomplete, and additional treatment is necessary. Keith and his associates have shown that ammonium chloride and ammonium nitrate possess diuretic action, and themselves are often capable of mobilizing retained fluid and of facilitating the action of the mercurial diuretics. They apparently exert their influence directly on the tissues of the body; the ammonium radical forms urea and the acid ion apparently predominates in liberating fluid. Ammonium nitrate causes increased urinary output of water, acid, chlorine, ammonia and total inorganic base. The drug is best given in enteric coated pellets, and the usual dose is 4 to 6 gm. daily. Its administration must not be too protracted owing to the tendency of the concentration of urea in the blood of some patients to become elevated.

Venesection, one of the oldest therapeutic procedures, has an important place in the treatment of heart failure. It is a procedure that modern medicine has almost abandoned, and yet its intelligent application is often a life-saving measure. The quantity of blood to be withdrawn is an individual problem and usually varies from 300 to 600 cc. The beneficial effects are often sudden and striking. It is particularly effective if the pulmonary circulation is engorged. The volume of venous blood becomes reduced, which diminishes the pressure of the blood in the heart in diastole, and thereby diminishes cardiac dilatation and makes possible more efficient cardiac contraction. This often permits the heart to keep pace, or even to overcome load, and frequently is the turning point in the restoration of function.

Thus, a rather simple and efficient therapeutic approach to the problem of heart failure is possible. It is based on the pathologic physiology of disease and on practical experience. Digitalis is cautiously and discriminately employed.

BIBLIOGRAPHY

1. Cheinisse, L.: Les injections intraveineuses de

solutions glycosees hypertoniques dans les maladies du coeur. Presse med. 1:266-267 (April 2), 1921.

2. Cohn, A. E., and Stewart, H. J.: Evidence That Digitalis Influences Contraction of the Heart in Man. Jour. Clin. Investigation, 1:97-125 (Oct. 24), 1924.

3. Eyster, J. A. E.: Venous Pressure in Cardiac Decompensation. Jour. Am. Med. Assn., 89:428-429 (Aug. 6), 1927.

4. Eyster, J. A. E., and Middleton, W. S.: Clinical Studies on Venous Pressure. Arch. Int. Med., 34:228-242 (Aug.), 1924.

5. Harrison, T. R., and Leonard, B. W.: The Effect of Digitalis on the Cardiac Output of Dogs and Its Bearing on the Action of the Drug in Heart Disease. Jour. Clin. Investigation, 3:1-36 (Oct.), 1926.

6. Keith, N. M., Barrier, C. W., and Whelan, Mary: The Diuretic Action of Ammonium Chlorid and Novasurol in Cases of Nephritis With Edema. Jour. Am. Med. Assn., 85:799-806 (Sept. 12), 1925.

7. Pfalz, W.: Zur Behandlung von Herzkranken mit Traubenzuckerinfusionen. Deutsch. med. Wchnschr., 2:1181-1183 (Oct. 23), 1919.

8. Saxl, P., and Heilig, R.: Ueber die diuretische Wirkung von Novasurol und anderen Quecksilberinjektionen. Wien. klin. Wchnschr., 33:943-946 (Oct. 21), 1920.

9. Withering, William: An Account of the Foxglove and Some of Its Medical Uses. Birmingham, Robinson, 1785, 207 pp.

INDICES OF MALNUTRITION*

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The most widely used index of malnutrition is weight. Very often this is the only index used as a criterion for the existence of a state of malnutrition.

It is now conceded that underweight is a good index whenever the condition is present, but that it detects only a portion of the number of children that require upbuilding and intensive nutritional care. No great reliance can therefore be placed on the use of height and weight tables alone. A careful physical examination must be made to detect all children that belong to the vast army of the malnourished.

We must recognize the fact that there are two types of malnutrition, the exogenous and the endogenous. In the first type, malnutrition (a term which we use to include undernutrition) is caused by a food intake poor in quantity or in quality or in both. In the second type, malnutrition is due to the inability on the part of the system to digest, absorb or assimilate the food ingested, even though it be correct from every nutritional angle. A child that has a focus of infection, celiac disease, a rheumatic heart or tuberculosis may suffer from malnutrition due to poor digestive powers, to defects in absorption or in assimilation or to loss of food due to increased peristalsis. Since malnutrition is the result of a biologic defect or disturbance as well as the result of incorrect food intake, it is all the more advisable in addition to weighing and measuring height to make a thorough physical examination before pronouncing a child or adult a victim of malnutrition.

That height and weight standards may fail as a reliable means of selecting malnourished children has been definitely established by clinical investigations on animals and by laboratory investigations on children. Manny found that of children diagnosed as suffering from defective nutrition, 64.4 per cent would have been missed by the height-weight standard, since that proportion in the malnourished group was less than 10 per cent underweight for height. Dr. Josephine S. Baker observed that boys uniformly revealed a much larger group of cases of malnutrition by physical examination than by the use of height-weight tables alone. Dr. Clark and his associates, of the U. S. Public Health Service, made a study of 9,973 school children. They emphasized the unreliability of depending upon weight alone. They found that only 48.2 per cent of the children diagnosed as malnourished were 10 per cent or more underweight. If weight were used as the sole criterion, 52.8 per cent of the poorly nourished would have been considered normal. They state that on the average the children of poorer nutrition weighed less than those of better nutrition, but that underweight alone, be it to the extent of 7 per cent of 10 per cent, does not pick out individual cases of inadequate nutrition. In a still later investigation conducted by Dublin, of the Metropolitan Insurance Company, and by Gebhart, the results showed that only 38 per cent of the children diagnosed as suffering from malnutrition were 10 per cent underweight.

Laboratory findings also bear out the fact that weight is a poor yardstick with which to measure the absence or presence of malnutrition. When a young animal is taken off an adequate diet and put on one lacking in one or more nutritional factors, it continues for some time thereafter to make gains in weight in spite of the incompleteness of its diet. Finally, the weight becomes stationary or begins to drop. Cohen and Mendel observed that guinea pigs having scurvy develop swollen joints and tendons at the time that they were growing rapidly and enjoying good appetite. Hart, Steenbock, Elvehjem and Waddell produced anemia in young rabbits on a diet of milk, notoriously poor in iron and lacking in those qualities necessary for the formation of hemoglobin. On such a diet the hemoglobin content and the red cell count fell off markedly in the course of five or six weeks. The initial hemoglobin content of 85 to 95 per cent came down to 60 or 50 per cent, and the initial red cell count of 7 to 8 million per cubic millimeter came down to 4.5 or even 3 million. In spite of the marked anemia the growth of the animals continued at a normal rate. And it is indeed very frequently observed that children and adults of normal weight may suffer from marked anemia. Even in disease due to dietary deficiency one may fail to find loss of weight. Grant, Bowen and Stegman have observed that white rats, subsisting on a low vitamin D intake or on a low calcium and a low vitamin D intake and inoculated with the tubercle bacillus, became tuberculous, but grew at a faster rate than control animals fed on the same type of deficient diet but without being inoculated with the bacillus of tuberculosis.

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PHYSICAL SIGNS AND SYMPTOMS IN DIAGNOSING MALNUTRITION

Height and weight measurements do not always lead to correct diagnosis of malnutrition. Height and weight measurements mean very little without a physical examination. In a physical examination made especially for detecting a state of malnutrition we deem it necessary to pay very close attention to the following significant points of observation: (1) The temperament and general appearance, (2) the skin, (3) tissue turgor and muscle texture, (4) the carriage, bearing or posture, (5) the shape and contour of the head, chest and abdomen, (6) the development of bone and teeth, (7) the blood, (8) the presence of gastro-intestinal derangement, (9) the tendency to fatigue, (10) susceptibility to infection.

The Temperament and General Appearance: Instead of being active, alert and even-tempered, interested in play and in school work, a malnourished child is dull, listless, heavy, fretful and cross. His sleep is restless. He is tired all the time or gets tired very frequently. Other children dislike to play with him. He has none of the spirit of give and take. He is consequently being scolded or punished for naughtiness. His work in school may be below grade. He cannot concentrate.

The malnourished child usually looks older than his age. He wears an unhappy, anxious expression on the face, which is either thin and pinched, or full and flabby. There may be present a fullness under the eyes or dark olive rings. He is often shorter than the normal child of the same age. His posture is bad.

The Skin: The child giving evidence of malnutrition may have pasty complexion, pale or slightly olive in tint. The skin may be dry, rough, wrinkled and unpleasant to the touch. It may have a tendency to show areas of redness and blemishes and also areas of eruption. The hair may show deficiency in luster.

Tissue Turgor and Muscle Texture: The muscles and skin of the normal child present to the touch a soft and velvety feel, while on slight pressure a feeling of compactness and strength is evidenced. The tissues of the malnourished child often present the appearance of marked atrophy, underdevelopment, dehydration, or the appearance of marked flabbiness.

The Carriage, Bearing or Posture: Poor posture and flat foot are due to weakness of the muscles that keep bones or sets of bones in normal position. The weakness of the muscles of the back that keep the vertebral column erect or infection in the vertebral column with resulting destruction of bone may lead to several types of spinal curvature. The weakening of the muscles that hold up the arch of the foot may be a direct consequence of malnutrition, especially of rickets. The malnourished child is round-shouldered and drooping. His shoulder blades may stick out conspicuously like wings, giving rise to the so-called winged scapula. His chest is flat and contracted. He assumes the so-called fatigue posture. Although young in years he stands like a tired old man.

The Shape and Contour of the Head, Chest and Abdomen: Malnutrition gives rise to a weak, flabby, toneless musculature. The voluntary and involuntary muscles and even the heart muscle are all weakened by malnutrition. In a certain type of malnutrition, especially in malnutrition due to rickets and to celiac disease, the muscles of the abdominal wall lose their tone and stretch greatly owing to the pressure of the organs in the abdomen, which is pushed from within outward. The bulging abdomen or pot-belly, as it is often called, is a sign of malnutrition.

The organs in the chest cavity are contained in a bony basket composed of ribs, breast bone, and vertebral column. In certain types of malnutrition, rickets, and even in scurvy, the soft ribs lose their normal contour, becoming irregular and knotted. This change is due to lack of a tendency for the ribs to increase in hardness. The organs within the thorax increase keep pressing as they continue to grow, and this pressure within the thorax is too great for the poorly calcified ribs. They finally yield, giving deformities resulting in changes in contour and shape. A deviation from the normal shape, contour and position of the ribs, breast bone, or spinal column may be usually considered a mark of malnutrition, unless such deformities are due to injury or violence. Abnormal curvature of the spinal column may be due to tuberculosis.

The Development of Bone and Teeth: In the malnourished child the bones may not be as hard as in the normal child. Knock knees, bow legs, parietal bosses, craniotabes, swelling of the joints, deformities in the contour of the pelvic girdle or of the rib basket are to be met with in the child suffering from rickets. As for the teeth, dentition may be delayed. Dental caries, stomatitis gingivitis, and pyorrhea may develop. Swelling and bleeding of the gums and consequent loosening of the teeth are of common occurrence. Decaying teeth, poorly-calcified teeth, and unhealthy looking gums are unmistakable evidence of existing deficiencies in the diet.

The Blood: The blood of the malnourished child shows evidence of anemia. The number of red cells may be much below the 4.5 and 5 million per cubic centimeter, and the hemoglobin may be much lessened than the normal amount. All deficiency diseases are accompanied by anemia, which is one of the most common conditions among people, young and old.

The Presence of Gastro-Intestinal Derangement: The malnourished child may be recognized by his finicky or capricious appetite. To feed such a child at all is often a job for the whole family, requiring resourcefulness, tact and diplomacy. He has developed his own likes or dislikes with reference to food, and has set himself up as the authority on the kind of food to be taken, the manner of eating and the time of eating.

The malnourished individual often suffers from abdominal symptoms, such as foul breath, nausea, belching, vomiting, gas, cramps, fullness in the gastric region, diarrhea or constipation.

The Tendency to Fatigue: Among the prominent causes of fatigue we may mention: (1) excessive physical, mental or emotional activity; (2) exhaustion brought on by frequent epileptic fits, convulsions, or choreic movements; (3) insufficient rest or sleep; (4) lack of genuine interest in school work or in the occupation engaged in; (5) congenital debility; (6) eye strain; (7) impaired hearing; (8) anemia; (9) low blood pressure; (10) metabolic disturbances like hypoglycemia, diabetes, Addison's disease; (11) poor posture; (12) malnutrition. The cure for fatigue lies most often in rational habits of living —definite doses of sleep, work, play and relaxation, and diet adequate in all respects.

Susceptibility to Infection: The malnourished child is very susceptible to all kinds of slight or severe infections. He is the child who gives a history of enlarged neck glands, enlarged or inflammed tonsils, adenoids, and frequent and severe colds or attacks or laryngitis contracted upon the slightest exposure to contagion or to change in temperature. He is also a frequent victim of middle ear infection, bronchitis and tuberculosis. If such a child contracts one of the acute diseases that are yet so common to his age, his chances for a speedy uncomplicated recovery are greatly lessened as compared with those of the average normal youngster. His convalescence, thus retarded, is apt to be a most trying experience in the family.

In short, we wish to state that malnutrition may occur in the young who are underweight, of normal weight, or overweight. In order, therefore, to recognize the existence of a state of malnutrition we must take into consideration among other things besides weight, the general appearance, the temperament, the musculature, posture, abnormalities in size and shape of the chest and abdomen, the condition of the skin, defects in bone and tooth structure, the blood picture with reference to the quantity of hemoglobin and the number of red cells, and the digestive tract. We must also note the presence or absence of a tendency to recurring local or systemic infection.

BIBLIOGRAPHY

Baker, J. S. Malnutrition among school children. Weekly Bulletin, Department of Health, City of New York, 1928, N.S., 7, 75.

Baldwin, B. T. The use and abuse of weight-height-age tables and indexes of health and nutrition. Journal of the American Medical Association, 1924, 82, 1.

Cohen, B., and Mendel, L. B. Experimental scurvy in the guinea pig in relation to the diet. Journal of Biological Chemistry, 1918, 35, 425.

Clark, T., Suydenstricker, E. and Collins, S. D. Weight and height as an index of nutrition. Public Health Reports, U. S. Public Health Service, 1923, Jan. 12, pp. 39-58, Reprint No. 809.

— — — Indices of Nutrition. Public Health Reports, U. S. Public Health Service, 1923, June 8, pp. 1239-1270, Reprint No. 842.

Dublin, L., and Gebhart, J. C. Do height and weight tables identify undernourished children? American Journal of Public Health, 1923, 13, 920.

Emerson, W. R. P., and Manny, F. A. Weight and height in relation to malnutrition. Archives of Pediatrics, 1920, 37, 468.

Grant, A. H.; Bowen, J. A., and Stegeman, D. E. The effect of rachitic diets on experimental tuberculosis in white rats. I. Calcium and Vitamin D deficiencies as factors in lowering resistance. American Review of Tuberculosis, 1927, 16, 268.

— — — The effect of rachitic diets on experimental tuberculosis in white rats. II. Vitamin D-deficiency as a factor in lowering resistance. American Review of Tuberculosis, 1927, 16, 642.

Hart, E. B.; Steenbock, H.; Elvehjem, P. A., and Waddell, J. Iron in nutrition; nutritional anemia on whole milk diets and utilization of inorganic iron in hemoglobin building. Journal of Biological Chemistry, 1925, 65, 67.

Manny, F. A. Indices of nutrition and growth. Modern Hospital, 1916, 7, 425.

— — — A comparison of three methods of determining defective nutrition. Archives of Pediatrics, 1918, 35, 88.

VAGINAL DISCHARGE ASSOCIATED WITH TRICHOMONAS VAGINALIS

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Vaginal discharge, proven non-specific and not responding to the ordinary types of treatment has been the unhappy lot of many women. This situation has existed until recently through the common lack of knowledge as to the causative factor associated with certain types of discharge. Attention was first directed to the trichomonas organism by Donne in 1834. More recently Davis, De Lee, Greenhill and others have done much to focus attention on the vaginitis associated with the trichomonas and Plass(1) has added to our conception of the burning and irritating discharges through his work on yeast infection of the vagina. It is the purpose of this paper to discuss the vaginal discharge associated with the *Trichomonas vaginalis*.

The organism is small, resting in size between an epithelial cell and a leucocyte. It is somewhat eliptical in shape, bearing at one pole four flagella and at the other a single whip-like structure that is thought by some to serve as an anchor. In addition to the flagella there is an active undulating membrane. *Trichomonas vaginalis* is actively motile and is quickly influenced by changes in its environment. Deviations from the body temperature cause it to assume a spherical shape quite indistinguishable under the lower power of the microscope from large leucocytes or epithelial cells. Its growth is favored according to Greenhill "by something that changes the soil, and allows the multiplication of the organism." It has been noted in this connection that the organism apparently multiplies during and immediately after menstruation. The menstrual blood being an excellent culture medium.

The trichomonas is normally found according to some writers, in the rectum, though Davis(2) reports that the trichomonads found in the intestine do not have the cultural characteristics of the type found in the vagina, for he was unable to grow the vaginal parasite in the same cultural media.

Hegnar(3) believes that *Trichomonas hominis*, the trichomonad found in the intestine in man, and *Trichomonas vaginalis*, are of the same species but adds there is "still some question". His experiments with monkeys tend to show that the intestinal parasite will grow in the vagina and concluded that in certain cases where the innoculation did not take, there was an immunity in the animal that explained the failure. His work further substantiated the hypothesis that the infection in monkeys was directly due to the contamination of the vagina through the fecal stream. In 1927, Hegnar(4) reported on the morphology of the organism and found no differences between the intestinal and vaginal species.

It is interesting to note in this connection that Williamson(5) reported that out of 1,148 food handlers in Chicago, 21 or 1.82 per cent gave evidence of the trichomonas in the intestine. In 380 normals 1.05 per cent had the organism in the intestinal tract. Until additional data is at hand the intestinal tract must be considered the chief etiological factor and auto innoculation, the most plausible method of spread in women.

The incidence of the infection apparently is wide for the writer has personally found the organism in a young girl of eight and in women past the menopause. Some further idea of the frequency of the infection may be had from figures recently made available through the kindness of Dr. Reuben Peterson, Chief of the Department of Obstetrics and Gynecology, University of Michigan hospital. During the period from October, 1929, to September, 1930, 4,990 women presented themselves for examination in the Gynecological division of this department. These cases may well be taken as a cross section of the women of Michigan as they presented themselves with every known gynecological complaint. The diagnosis of *trichomoniasis vaginalis* was made and proven microscopically on 61 of these women. The percentage of women complaining of vaginal discharge in this group of approximately 5,000 women has not been figured out. Furniss(6) presents a series of 35 cases, 24 of whom were married, 11 single, three of whom he classified as undoubted virgins. The greatest incidence, of course, is in women with marital introitus. This fact has led to the belief that the intact hyman prevents, to a certain degree, the contamination of the vagina. Infection of the male urethra, bladder and even epididimis has been reported and this is thought by some to be due to an infection through intercourse. Davis(7) has examined the urine of men whose wives had a trichomonas infection without finding the flagellates. Many patients, if questioned closely, will admit, or some will state, without questioning, that their husbands complain of varying degrees of irritation after intercourse. This possible relationship should be more carefully worked out through the clinical cooperation of the gynecologist and genito urinary surgeon.

DIAGNOSIS

The clinical picture presented by a patient infected with trichomonas varies somewhat. In general, however, she will complain of a profuse, sometimes foul, irritating discharge and pruritis. Examination discloses a thin watery discharge escaping from the introitus. The mucous membrane of the vagina is edematous and has in most cases a peculiar color somewhat akin to that of raw fresh ham. In many cases examination is painful. Speculum examination shows a profuse discharge, not issuing from the cervix but lying in a pool in the posterior culdesac. Some writers describe petechiae on the walls of the vagina, but this finding has not been present in a sufficiently frequent number of cases in the writer's experience to be considered characteristic. Upon withdrawing the speculum, the posterior blade will be found to contain a large amount of the discharge, the color of which varies from white to yellow. The characteristics of this discharge will enable one familiar with the disease to make a tentative diagnosis. It is thin as contrasted with cervical discharges and usually foul. The most characteristic feature, however, is the presence of minute bubbles giving it a frothy appearance. Care must be used not to allow lubricant to be on the inner surface of the blades of the speculum, if this feature is to be observed accurately, as droplets of oil will simulate bubbles. The bubbles are due to the presence of an associated organism, *micrococcus aerogenes alcaligenes*.

Direct examinations of the secretion under the microscope should never be omitted. This is best done by having a swab or small applicator handy when making the speculum examination. Immersion of this swab into the discharge and thence into 5-10 cc. of body temperature normal saline solution will give a milky suspension. One drop of this suspension should then be placed on a slide and covered at once with a cover slip to prevent drying. Examination under low and high power should then follow. The organisms may not at first be seen but if the attention is fixed on clumps of pus cells, a great activity may be noted under these clumps with marked agitation of the cells themselves. This activity is caused by the moving flagella and such an observation is comparable to finding the organism, for if watched the trichomonad will shortly appear. If the suspension is good many organisms will be seen swimming about the field. Stained preparations do not aid in the diagnosis. In fact, ordinary staining methods leave the trichomonas untouched.

In making the diagnosis of Trichomonas vaginitis it is of importance that a gram stain be made if there is any suspicion of a gonorrheal infection. In the writer's personal experience with the 61 cases from the University of Michigan hospital, two such cases were found, one in a girl of twelve and the other in a somewhat older patient, the gonococcus and trichomonas living in perfect harmony.

Occasionally the saline suspension will prove negative for trichomonas when the examiner is convinced that the clinical picture is that produced by the organism. In such cases he will do well to examine the patient just after the cessation of her menstrual period and before the patient has taken a douche.

TREATMENT

Theoretically it would seem possible to rid a patient of the invading parasite in one treatment as it is so susceptible to ordinary germicidal preparations. Davis(8) gives a list of germicides with the time required to kill the trichomonas in aqueous solution. It is interesting to report in this connection a chance observation made on one of the group of cases at the University of Michigan. She had received treatment over a short period of time when she removed to Florida for the winter. During the sojourn she bathed daily in the ocean and at no time was troubled with discharge and pruritis, the complaints that had first led her to visit the clinic. Shortly after her return to Michigan she again consulted the clinic because of a return of her complaints and it was sometime before she became clinically and microscopically cured. This bears out statements concerning the absence of the infection among individuals accustomed to ocean bathing. It is not the purpose of this paper to advocate one type of treatment as the best but rather to point out the most common forms of treatment with some observations as to their efficacy. No claim for the originality of the methods used is advanced as it will be seen that with slight variations they have all been used before. In the gynecological department of the University of Michigan the patients were first treated with what is known as the green soap method, a change was then made to Lugol's iodine treatment and more lately methylene blue was used. All methods have certain features in common and the results have been quite favorable, none of the three seeming more advantageous insofar as the patient was concerned. Certain features of the Lugol's iodine method namely the lessened irritation to the patient, the ease of application, and the cleanliness, recommended itself to us as a routine procedure.

The tincture of green soap method is as follows: With the patient in lithotomy position, the vulva is depressed with the gloved fingers of one hand while the solution is poured into the vagina. A careful scrubbing of the vagina with the fingers is then done, being sure that all parts of the vagina are reached. In aggravated cases great care must be exercised as the procedure is painful and may have to be preceded for several days with Sitz baths. After scrubbing, a speculum is inserted and all parts of the mucous membrane carefully dried with cotton applicators. If possible the patient should be placed in knee chest position for this step. This step of the process is by far the most important phase of the treatment, as the organism is very susceptible to drying as pointed out before. A good antiseptic dusting powder should be used in a powder blower (DeVilbis Powder Atomizer) and the patient instructed to take a lactic acid douche the following day and return on the third day for another treatment. The principal objection to this method is the discomfort to the patient and the sloppiness of the soap preparation.

The Lugol iodine method varies from the above only in the medicament used, a 1 to 4 solution of the Lugol's is used on a cotton pledget, and with a speculum in the vagina, the mucosa is carefully painted. If the Graves speculum is used it must be turned so that all parts of the vagina are covered. Air drying replaces the mopping of the vagina. We have found that the ordinary hair drier as used in beauty shops is a great time saver and effectively dries the Lugol's solution on the vaginal walls. The dusting or drying powder is used as before and the patient given the same instructions.

Methylene blue in a 1 to 2 per cent aqueous solution has also been used, but the results seemingly are no better than with the other two methods.

A simple procedure of mercurochrome and douches with $KMNO_4$ is advocated by some and Furniss(6) recommends and uses nothing else than a 1:4000 bichloride of mercury douche.

Occasionally, as pointed out above, trichomonas infection will be found in young girls with intact hymens. In these cases it will be seen at once that the methods of treatment will not be applicable. Dr. George W. Covey of this city has recently called my attention to a vaginal suppository composed of 1 per cent sodium ricinoleate and 1 per cent gentian violet in a boroglycerine base, which he has used with good results in similar cases. A 2 per cent lactic acid jelly might also be used providing, of course, the residue be washed out with a douche the following day.

It is difficult to estimate the length of time needed to effect a cure and once effected the patient should be warned that the condition may recur. Some believe that the trichomonas can burrow under the superficial epithelium thus explaining the recurrence of the organism. There is no satisfactory proof that this is true. Generally speaking the criteria of cure rests upon the absence of discharge and irritation, and the absence of organisms and pus in a saline suspension. Some patients will be free from the infection after a short course of treatment, in others the organism is present in spite of adequate therapy. It is well to vary the treatment in these cases, that is, alternate the green soap, Lugol's iodine and methylene blue. In badly lacerated and eroded cervices repair of the cervix either through operative procedures or by means of the cautery, should proceed the active treatment of the vaginitis.

CONCLUSIONS

1. *Trichomonas vaginalis* is one of the most common and least frequently recognized sources of discharge arising in the lower genital tract.

2. The type of discharge is almost diagnostic.

3. Saline suspension and microscopic examination should be routine measures in the study of leucorrhea.

4. The organism responds to treatment readily but is apt to recur.

BIBLIOGRAPHY

1. Plass, Borts and Hesseltine: Jr. Iowa S. Med. Soc., March, 1930.
2. Davis: J. A. M. A., 92:306-308. Jan. 26, 1929.
3. Hegnar: Jr. Parisitology 14:261.
4. Hegnar: Jr. Parasitology 14:27-33.
5. Williamson: J. A. M. A., 92-7:528. Feb. 16, 1929.
6. Furniss: Am. Jr. Obst. & Gyn. XX 1:93, July, 1930.
7. Davis: Am. Jr. Obst. & Gyn. XVIII 4:575, Oct., 1929.
8. Kleegman: Surg. Gyn. & Obst. LI 4:552, Oct., 1930.

CHILD WELFARE FROM A TEACHER'S VIEW POINT*

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It has always been considered that education consists in training the individual mentally, morally, and physically, but, in America we have been slow in developing definite plans along some lines. In our Nebraska schools there never was any fixed plan to look after the physical welfare of the child until some eleven years ago. Our legislature, in its session of 1919, passed a law making it mandatory that all teachers in the Nebraska schools must, during the first month of each school year. examine all children under their care as to defects of the eye, the ear, the teeth, and as to whether or not the child habitually breaths through its mouth.

Any one who will give this matter a little serious thought must come to the conclusion that this enactment, which became effective in our schools in the fall of 1919, is one of the most worth-while laws ever placed upon the statute books of any state. Clearly, this law was sponsored, and its provision suggested, by able, farseeing members of the medical profession of our state.

After the passage of this law there were members of our profession who took the attitude that teachers are not capable of making these examinations, and that these examinations should be made by physicions. However, it seems that, for the most part, at the present time, these examinations are being made by the teachers, which probably is as it should be, considering the simplicity of the provisions of the law.

In any group of 30 or 40 children, if there is a boy or a girl who does not see well, or who does not hear well, all the other children in that school know that fact, and no teacher can be with such a group of children for a month and fail to discover the ones with poor vision and those with dullness of hearing. as such defects naturally present themselves in the course of the teacher's every day work. Having thus discovered those with poor vision and those with dull hearing, it is even easier for the teacher to take note of those who, because of some nasal obstruction, habitually breathe through the mouth. Then, any teacher with even the half of one eye can look into the child's mouth and see whether the teeth have holes in them, or are otherwise defective. Having done this much, the teacher will have complied with all the provisions of the law, when she has properly recorded and reported her findings on the blanks which the law provides.

Although the law does say that boards of education may employ some physician to make these examinations, there are certain definite objections to handling the matter in this way. First objection: A physician, going into a group of 40 children for only an hour or two, would probably overlook those with slight dullness of hearing. Having only a limited time, the physician cannot, with certainty, pick out the children who habitually breath through the mouth. Neither can the physician, with only an hour or two to give to these examinations, be certain as to those who have poor vision. Second objection: Boards of education do not always distinguish between the chiropractor, the osteopath, and the regular physician, for the title Doctor is now as definitely attached to the chiropractor or the osteopath as to those who practice in the ranks of regular scientific medicine. Hence, by taking these examinations out of the hands of the teacher, an opportunity is afforded boards of education to call in a chiropractor or an osteopath to do with work. and thus dignify the cults and place them on a level with the practitioners of scientific medicine. Third objection: Since the teacher, having a full month in which to discover these simple defects, can do the work just as well, or even better, than some physician who may be called in for only an hour or two, the price paid the physician for his work becomes an unnecessary expense, and, thus an opportunity is afforded to create a prejudice against this most excellent law, and against the medical profession.

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Every physician who is a member of a county board of health is in a position to do a very great good. He should firmly take the stand that the teachers should make these examinations as required by the law in question. The county superintendent, by virtue of her office, is the secretary of the county board of health; hence it would be an easy matter for the physician member of the board to make arrangements with the superintendent, and appear before the teachers, when they are assembled for their summer county institute. This physician, as county health officer, should make this arrangement. He should appear before the teachers each year when they are assembled, and should there review the points involved in these examinations, thus familiarizing teachers with the procedure, at the same time pointing out and emphasizing the great damage which may possibly come to the child's health from poison thrown into the system by diseased teeth and tonsils, and as to how it is possible that partial deafness and mouth breathing may be relieved by the removal of impinging tonsils and adenoid tissue.

The teacher, in preparing for her profession, must familiarize herself with the best methods of teaching numbers, language, history, and the other curricular subjects. It is just as important, in fact more important, that she should have clear ideas about a few of the basic things which have a bearing upon the child's health and physical welfare. If Johnnie is pale and listless in school, and, if the teacher, herself, looks into Johnnie's mouth and sees there a half dozen hollow, stinking teeth, that teacher, by that act puts herhelf into the attitude to clearly sense the connection between cause and effect, and to clearly see and understand the reason for Johnnie's infirmities. After that it would be not so easy for the chiropractor to convince Johnnie's teacher that Johnnie's pallor and listlessness are due to "Spinal nerve pressure", all of which can be cured by certain so-called "adjustments". When that teacher, through her inspection of Johnnie, and by actual observation, comes to be familiar with these few essential things, and to have correct ideas along these health lines, that teacher will pass those sound opinions over to Johnnie; to Johnnie's playmates; to Johnnie's parents; to the neighbors of Johnnie's parents. Thus, that teacher becomes a tower of strength—a light-house in that community, and a definite asset to science, and to sane medicine, and a definite liability to the cults.

There are many other reasons why the teachers should make these examinations as the law specifies. Because of the enactment of this law, our Department of Public Welfare has caused to be published and distributed throughout the state, a manual containing rules and regulations governing contagious diseases; also regarding these health examinations in our schools, and other health matters. The amount of valuable information which this manual contains is amazing.

Every lay person, especially teachers, should be familiar with the information which this booklet contains. It evidently was the intention of the framers of this law that every teacher in Nebraska should familiarize herself with the contents of this manual, for it was provided that a copy of this pamphlet should be placed on the desk of every teacher in the state. To thus print and distribute this booklet, and to provide the necessary blanks upon which to report diseases and defects, cost a handsome sum of the taxpayer's money. Certainly, a spirit of respect for, and loyalty to our law makers, and a modicum of good sense would suggest that the law be carried out as specified.

When it is considered that all the nations of the world select only physicians and surgeons who have been trained in regular medical colleges to care for the physical welfare of their men in their navies and standing armies, eschewing osteopaths, chiropractors, and other cultists; when every examiner for every old line life insurance company in the world must be a physician trained in regular medicine; when every railroad company in the world, as well as every ship afloat upon the high seas, must have physicians and surgeons educated in regular medical colleges to care for the physical welfare of their passengers and employees why should not our teachers know something about child welfare and general health matters from the viewpoint of scientific medicine?

In all cases where county health officers avail themselves of the opportunity which the law provides to get in touch with the teaching profession and thus give direction along the lines of sane thinking, much can be accomplished in making the world acquainted with essential truths such as those just mentioned and thus science may be advanced and health standards in general be raised.

Since the present health law went into effect ten years ago, I have been serving as the medical member of the board of health in Nemaha county, and have steadfastly held to the procedure as outlined in the preceding paragraphs, and have been much pleased with the results. It is such an easy matter for the physician member of the county board of health to put himself in touch with the teachers of his county as indicated above, and, thus, to reach practically every home in the county, and thus foster sane ideas along health lines, that it does seem that the county health officer who fails to handle the matter in some such way as here indicated, misses a great opportunity to do good, not only to the people of his community, but to the honorable profession of regular medicine.

There is another field in which the teacher's watchful care may be most worth-while. Statistics kept in Illinois for the last few years show that more children between the ages of five and fourteen years lose their lives from accidents than from any other one cause. These Illinois figures for the year 1927, for children between the ages of five and ten years, show 335 deaths from accidents; 238 deaths from diphtheria; 116 deaths from heart disease; 113 deaths from pneumonia. From 10 to 14 years accidents still hold first place in causing deaths among children, according to these Illinois statistics. What is true of Illinois is, of course, true of every other state.

There are many ways in which children may be injured accidentally. There are the usual sports on the play grounds; coasting on the hills and skating on thin ice on the streams and ponds in the winter season; riding to and from school in crowded automobiles; carelessly running out onto the highway in front of passing vehicles. Considering the few hazards mentioned and the many other dangers to child life, the teacher, who, in addition to making herself familiar with the ordinary health matters, keeps herself constantly alert to protect the children under her care from accidental injuries, certainly renders a service to the community in which she labors which mere dollars can never reward. The recompense of such a vigilant teacher will be more than gold—it will be a consciousness of work well done, and a warm place in the hearts and affections of her pupils and patrons. Then, too, the teacher who is thoroughly alive on these matters touching the health and physical welfare of the children under her care, is simply putting herself in step with the spirit of the times; for President Hoover has called a conference of over eleven hundred experts to convene at the White House in Washington on Nov. 19 to 22nd to consider problems having to do with child health and child welfare. Before becoming President, Herbert Hoover was president of the American Child Health Association, hence this conference should be productive of much good.

In here taking the attitude that our teachers should make these examinations as provided by law, it is not meant to decry the great value of a thorough physical examination for all school children, which, of course, can only be done by competent members of the regular medical profession. Certainly it is most desirable that every school child should have this thorough physical examination, but, in Nebraska, the present law does not contemplate such a procedure. It would, therefore, seem to be the part of wisdom for physicians to be content with what the law provides. If there are enough wise heads on the job to hold things level—to hold in check members of our profession, who, seemingly, are sometimes ever hasty—if this can be done until the present law can be allowed to operate as its far-seeing authors intended it should—another generation will see the enactment of a law which will provide that most desirable thing, a thorough physical examination of every school child.

Again, what is being said in this paper must be understood as applying, for the most part, to rural and village schools, those schools under the jurisdiction of the county superintendent. In many of our cities and larger towns, boards of education have provided a physician or a trained school nurse to look after these matters of health for the school children. A thing which would vastly improve the present situation in our rural and village schools, would be for the board of county commissioners in each county, to employ a permanent trained nurse to care for the physical welfare of our school children. Taxpayers do not complain of the expense of a county superintendent, whose duty it is to visit all schools in the county and supervise the mental and moral development of our children: why should they complain at the expense of a trained nurse, whose duty it would be to visit all schools, and supervise that most important part of an education, a sound healthful physical development? All parties, having anything to do with the education of our youth, have a very important duty to perform here, that is, to assist in building up a sentiment in every county that will sustain some such program as the one just alluded to. However, fine progress is being made along many lines. Recently Miss Murphy, of the Child Welfare Department, working through women's clubs in many sections of the state, has been holding health conferences whereby parents of children of pre-school age, are afforded an opportunity to have their children given a physical examination, free of charge, by dentists and physicians, the purpose being to discover physical defects and have such corrected before the child enters school. This certainly is a movement in the right direction and should be productive of much good. Only last fall such a conference was held at my town, Auburn, to which the public reacted in a surprising manner by coming, in large numbers, with their children for these examinations.

When it is considered that the highest type of mental and moral development can be found only in that individual where there has first been laid that necessary foundation, a well nigh perfectly healthful physical body, it becomes apparent that those efforts which have for their purpose the promotion of health and bodily vigor, are the most worthwhile of all activities. It is in this work that our State Department of Public Welfare is engaged. No money spent in Nebraska in the last ten years can possibly have returned richer rewards to our taxpayers, than that spent in public health and welfare work. Those whose duty it has been to administer the various activities of our Department of Public Welfare during the past years, are certainly entitled to the lasting gratitude of all our people for the splendid work accomplished.

THE GREATEST MISUNDERSTANDING OF LIFE—SEX

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I scarce know what to say to bring to you the complete meaning of this topic; the most important of all subjects (save one) that the sons of man have to contend with. (I consider that the spiritual part of man takes first place in the lives of mankind, for with it fully understood all other subjects are completely and correctly handled).

I wish to have you notice, I did not state that all other subjects were understood by the understanding of the spiritual laws.

This is the one subject with which all mankind has to deal whether he wills or not, rich or poor, noble or debased; and it is the one subject that has been least understood, although it is the only subject that without a partial understanding of which, all the world would be a blank and mankind would have failed in the very thing for which he was created.

They say "there are two sides to every question" but this one has been so completely kept in the dark that we do not know whether it is square, round, flat, or cubical. Till of late years men seemed to desire it to be kept so. But in the last few years it has been creeping more and more into the light and now it seems to be up to this and the oncoming generation to bring it out fully into the light and let it be studied for its beauties and its faults. So let's go at it and dress it up till it is four square and has one side on which to lie and lie still on, one side to get on and not slide off, and four sides to look at; and all will reflect a full and complete understanding of the cube inside.

Heretofore it has been kept underfoot till it seemed to be flat and the top was so marred by the constant wear of heels that it was too homely to behold and the bottom was so pressed into the mire that we didn't think it worth a glance.

In the past few years it has puffed itself up like a great puff ball and we hear a lot about it and see a great cloud of smoke, dust, or something from it until the real object is completely hidden from view and we can't tell in what condition it is.

All mankind is trying to define it in the darkness and without a proper study of its real nature. In spite of this all of us have to deal with it from childhood to the old age.

It is one of the earliest traits of childhood shown and is a continuous part of him throughout his whole life, even when he would not, and is either a joy to him, or a menace to him and a source of grief to his associates, menacing both if improperly understood and adding joy if comprehended.

Maybe I have done enough of the speculative and had better tell you what I am talking about, but had I stated my mission first, you would have closed this page and said, "Hush! We are getting too much of that now."

The real thing I wish to get you to think of is the sex question, the subject that has caused more grief and discomfort than any other one.

What was it that caused you to cast the first sidelong glances at those playmates of yours whether they were dark or fair, good to look at or only plain? What is it that causes men and women to travel to the ends of the earth to seek out a fair face and a fond embrace? Why does the fair young divorcee seek another mate after she has testified before witness that her beloved hubbie mistreated her and forsook her? Really now, why?

There is no effect without a cause and we stand aghast today to see such a dire effect coming from the very source that for a long period of time has had such control of mankind; yet a subject that we were not to think of, and should put a lid on even the thoughts of, lest it become a source of public comment.

It is like a great pot of broth which we seem to be trying to unlid with both hands and yet we are holding the lid on it with a clamp that we refuse to unloosen.

We well realize that what is within is a necessity and that it is also good, but we hesitate lest its opening bring a deluge of misunderstanding, and so choose rather to steal what we can from it than dip in and enjoy it to the full.

It is said that "stolen sweets are the best" yet they are the sweets that most often are the bitterest when allowed to ferment. This desert of stolen sweets has led many a man into what has proved to be the most dire discomfort that he could find while the real truth of the thing is, it was intended to be the very most satisfying of all the gifts of mankind.

As man became civilized he began to be more deceitful till he tried to hide even the most useful of his gifts from his fellow man, partly from fear that he might take it away, and partly from what he chose to call shame. This concealing of the truth led to further concealment of facts concerning it, and finally into a condition where he feared to try to find the truth. In the meanwhile there began to be vague stories disseminated among them, especially the youth of the land, all intended to hide the real truth and deceive the listener. This, with the natural force of passion given for the promotion of the race, has almost ruined the real truth till man's lack of knowledge of himself and his fellow beings has deceived himself and his associates.

In the past few years there have been thinkers that have tried to reveal some of the facts, and these have stirred up such a cloud of mingled truth and lies that most of us stand aghast, and many say it would be far better to continue the hiding of the truth than to allow such deceit and misrepresentation to go farther. Yet we can't go back, and so there is now only one thing for us left to do; that is: To dig up the truth, and spread it out before the public till they can be brought to see it, instead of the falsities that have prevailed.

With this in view, are you willing to proceed and try to find out the full truth about yourself and those you are to associate with?

How much do you know about yourself? And how far are you willing to go to let your neighbors know the truth? Will you be willing to testify to the truth? And will you accept the truth from those about you, whether it coincides with your ideas or not, just so far as it is the best he or she can tell?

Of course, you didn't know, when you were a youth, that it was the fact that you were one sex, and the one you met was the other, that gave you the vague feelings that you were taught to consider love. Yet the truth has come out since you have had that partner that you didn't tell the truth, but beguiled it with something else, (I don't want you to think there is no love). When we are willing to look ourselves in the face and state the truth to ourselves, then we are in a fairly good shape to face about and without biased feelings try to get the truth from others. But as long as we only take a part of the facts from ourselves, we will take less from others.

If the facts in the case were known, and the woman that testified had told the truth, she wouldn't have said "her husband was cruel" but, "We have had a misunderstanding and are not living up to the truth. One or both of us have deceived the other, and we are no longer able to conceal that deceit. For that cause we cannot continue to be content to live together."

How long will it take us to get a full knowledge of this subject if you and I keep the cover on and hide all we find out about ourselves and those about us? I am aware you have told yourself that you are telling the truth, and yet you keep under the cover with something at all times. We call this reserve, and it truly is reserve, but should it be reserved?

I have many chances to hear the inside from many homes, and probably have heard the truth as near as many could tell it; and I think that there is no home in which discord is tearing at its foundation, that if there were a fair and impartial hearing between the contending parties, there would be discontent, to say nothing about discord.

I have my doubts that a newspaper is the proper place for us to teach this. Yet it is through such mediums that we get people to look and think, and when they really wish to know the truth they will be willing to go to the right source to find out, if there is such a source. That is what we wish to get together, something that will be a standard that will fit the most of the people, but we can't do it till the ones that are dissatisfied will out with the real cause of it, then can the measures be put on and the facts be squared up.

Suppose we start this knowledge with a few facts and see if we can help out a little. Then maybe someone else will find out something else and hand it in, till we have enough material to build a foundation. Then a little more, till we get a full building that will shelter the weak and control the strong and, by so doing, help humanity to another step upward toward that life of happiness that all are so desirous of.

We all know that if we were to be fair and truthful to ourselves it would help a lot. Then to be fair and truthful to our mates would add a lot more. To this add a fairness to our associates along this line, and there would be a big lift and, in fact, the whole thing would be solved. But what is fairness? Would it be right to say study yourself and those you meet in the same light you would study other animals? At this you begin to cringe. Yet the facts are that we are animals and the same rules that hold forth in other animals hold in mankind. Why go behind the bush about it and deny the truth? Now where should this first be understood, in high school? No, that is too late. So there remains but one thing left for us to do: give each and every parent a full understanding of the facts so that they may be able to teach, or rather live, into their children the real facts. In a few generations this bunch of fallacies that are now being given out in the whispered shades and darkness of a semi-knowledge will fade into the full light of a day when men and women will be under a single standard and not one for each sex.

Allow me right here to state my way of putting this before the minds of people and see if it wouldn't be a benefit.

I see no way but to teach all in one school, both sexes in the same congregation, otherwise there will not be a full comprehension by the one or the other. But if both are schooled together all will be able to speak in the same terms of the same facts, and it will not be when you and your neighbors family are out together and the locomoter ataxia patient walks down the street dragging his feet, that your wife and the wife of your neighbor will look on and say "Isn't it too bad that Mr. Smith has to be so afflicted", while you and your neighbor look at him and say in your minds, "It serves him right. He had a good wife and played with the fire."

One more statement that may seem harsh, but I think all really sane men will agree: I can't see why cases of chickenpox and measles have to be placarded to protect the innocent public while case of syphilis, gonorrhea, and chancroid are kept under cover, and their owners are upheld to hide it, till someday your daughter marries a latent case of gonorrhea. The brute transfers it to her, she fails in health, and the home is broken up. She goes to the hospital and costs you $1,000.00, and comes home to be a care and a burden instead of a joy to your old age. Or perhaps a case of syphilis spreads his malady to his wife, nurse, doctor, and friends, and finally goes the rout of paresis to be a source of worse than hell in the neighborhood, all because he had a secret disease, one that we must hush up lest it disrupt the affections of his family.

I say get the truth, and put it up to world, and make it as plain as you do the other contagious diseases, and there will be revolt against such things till they of themselves root the evil of social diseases from our society. For what thinking daughter is going to go down the street with a branded venereal? And what man is going to invite a venereal to an evening of debauch?

There is but one way to obtain this result, and that is to give both sexes the same sort of an education. Then there will be no longer two standards to measure by. A girl won't be condemned to hell for this life and the next; while the man goes and spreads infection to your daughter, and sends a family of imbeciles forth to be a burden on society.

I well realize that this seems harsh, but what else has controlled all other sorts of contagion?

THE GREAT WORK OF THE RED CROSS

The service of the American Red Cross in disaster during the past 48 years has been spectacular and dramatic, competent, purposeful and to the point. Great caravans of medical supplies have been rushed to the scene of disaster, tons of food have been purchased, thousands of meals have been cooked and set before the hungry, and sufficient shelter set up to make a hundred busy towns. Money in the amount of $49,594,000 has been expended in 938 disasters within these United States.

Through her 3,500 Chapters, the Greatest Mother in the World has a hand in every calamity which besets her children. In cyclone, tornado, hurricane, storm, fire, flood, epidemic, building collapse, wreck,—wherever the elements run riot or man in his race for a goal has endangered his fellow men, she is there. There is her standard, the flag of the Red Cross, set solidly as a sign of hope in the midst of the chaos of calamity, and under her banner springs up a new civic leadership, having a place in it for people of every political social, religious, national or racial complexion.

When there is need, every town and hamlet joins in the outpouring of concern. Industries and business groups everywhere give lavishly of their time and products, and there is widespread enlistment of sympathy and generous spirit of our people.

Florida, the Great Valley of the Mississippi, New England and the West Indies, scenes of the four most recent major disasters,—widely separated geographically but closely knit through bonds of suffering and misfortune, received tangible evidence of the generous giving of the American people, through their Red Cross. During 1926, following winds of hurricane proportion, a fund of $4,777,170.07 was provided by the people of the nation and the Red Cross for relief operations in Florida. In 1927 relief for Mississippi Valley flood sufferers called for the expenditure of $17,498,902.16 to carry through to completion the work begun early in the year. Of this amount the Red Cross furnished $100,000 from its own treasury. In November, 1927, heavy rains in New England brought about the most destructive flood ever experienced in that section of the country, and for the furtherance of this work the relief fund totalled $1,269,541.56, of which $529,312.93 represents a donation from the treasury of the National organization. Again, in September, 1928, gifts were made to the West Indies hurricane sufferers by the public, of $5,908,146.54, and of that amount the Red Cross furnished $50,000 from National treasury funds that it might facilitate the emergency handling of the situation.

In every community the local chapter stands for a fraternity of service, working for neighborhood, state, country and for the world. Every Red Cross unit stands ready at a moment's notice to help at home or abroad. Trained intelligence may better cope with threats of obliteration by natural forces. Thorough-going team play and constant alertness of leading officials, business industrial and professional folk may result in great saving of life by enabling the chapter to offer immediate relief where delay means despair and added misfortune.

Even before disaster strikes, the Red Cross realizes that where there is no disaster it has an important day-by-day work to do in preserving health, teaching ideals of service to the youth of America, helping in distress, and in *preventing* disaster.

It has made this prevention and the strengthening of its disaster preparedness committees in chapters the keynote of its contemplated work for the coming year. The Red Cross realizes that as the idea of prevention is carried out the chapter will perfect its skill in the handling of disasters through added knowledge gained by study of the particular problems and hazards contained within its field. This is the goal set for our Red Cross, and is the plan upon which the work for 1929 will be based.

During the coming year the Greatest Mother plans to stretch out her protective arm and trace with the finger of humanity a circle of prevention round about her children everywhere. Disaster relief programs embody extensive surveys of all hazards,—and evaluation of the type and number of risks present in communities. Public attention is to be called to existing dangers, and well laid plans of action are to be developed to anticipate every emergency.

Whether the community be small or large, national headquarters offers information and skilled leadership in working out plans to ward off calamity and to prepare for undertaking relief tasks. Through years of experience, supported by trained personnel, the organization is truly fitted to serve in an advisory capacity.

Mines, factories, munitions plants, rivers, lakes and streams that may be apt to overflow are all to be charted, and all chapters of the Red Cross are strengthening their disaster preparedness committees for constantly improved service when called into action. Skill and public interest will gradually surround the local problems until a new sense of security is justified.

The Red Cross has a great responsibility by virtue of the people's faith imposed in it, and it knows that greater disasters than those of the past may come to test it. It is ambitious to perfect its present disaster relief equipment and, through its chapters, is constantly striving toward the betterment of its administrative and operative functions. It will never halt in this purpose, as there is no vacation in coming to the aid of stricken people. From that responsibility there is no relief and no falling back.

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THE FORTHCOMING ANNUAL MEETING MAY 12, 13, 14, OMAHA

Time is passing rapidly and before long Annual Meeting time will be at hand. The meeting this year will be held at the Fontenelle hotel, Omaha, well known for its spaciousness and capacity to entertain such a meeting. The number of paid-in memberships at the time this is written, 150 more than at the same period last year, indicates no lack of interest in organized medicine in spite of the financial depression from which we all suffer to a degree. Following this indication a little further, we may reasonably hope for an average attendance at the annual meeting.

The program committee has secured the promise of Dr. Evarts Graham, Professor of Surgery, Washington University, St. Louis; Dr. Ernest Sachs, Professor of Neurological Surgery, Washington University, St. Louis; Dr. Edgar J. Huenekens, Minneapolis, Associate Professor of Pediatrics, Minnesota University School of Medicine; Dr. Buford G. Hamilton, Obstetrician, Kansas City, and will, possibly, have one other guest speaker for the meetings. This will indicate the general trend of the program, which it is hoped will be the equal of any so far offered.

Entertainments will be provided as usual.

Physicians who have lapsed should embrace the opportunity to become reinstated by sending eight dollars plus their local society dues to their county secretary without further delay.

SHALL GRADUATES FROM CLASS-A MEDICAL COLLEGES BE LICENSED WITHOUT EXAMINATION?

I have just returned from a meeting of the Federation of Medical Examining Boards at Chicago. The subject came up of licensing graduates from Class-A medical colleges without examination by state examining boards. There was not a paper on this particular subject, but in the discussion of papers, this question of licensure without examination was frequently brought out. This question is in the mind of different physicians of Nebraska. I thought it might be of interest to note a few of the points brought out in these discussions.

Some points in favor of granting of license without examination to graduates from Class-A schools are as follows:

(1) An examination by a board is unnecessary. To have met all the requirements of an A-School is sufficient.

(2) The examining board knows very little more concerning the qualification to practice medicine, of the graduate, after it has examined him than it did before. This particularly is true of boards that give only written examinations. Statistics bear out the fact that practically all graduates from A-Schools are granted license by examining boards. In other words, the board by its examination culls out very few graduates.

(3) It is not showing the proper respect for the A-Class school and for the organizations that have passed upon that school and classified it, to require graduates from that school to take an examination before a licensing board.

(4) It offends the graduates, who, having met all these requirements including an internship, have to go before an examining board. You lose their good will, and they dislike the examining board. In after years they do not always cooperate with these licensing and enforcing boards. Forty-five hundred of these graduates are licensed each year and it is well that organized medicine should encourage their good will and their cooperation.

(5) More can be ascertained by a close association and cooperation between licensing boards and medical schools. Thereby the examining board gains a real knowledge of the conduct and moral integrity and scholarship of these graduates. In this wise the licensing boards gain more evidence in regard to the qualification and the ability of the candidate to practice medicine

than he can gain through any form of examination.

Some of the points and arguments that were brought out against the proposition of licensing graduates without an examination are the following:

(1) It is going back to the old form of administration which was in vogue twenty-five years ago, but which was given up on account of its inadequacy. Of course, it is recognized that the status of medical colleges are quite different now than they were then.

(2) It is a fact that graduates from A-Schools are not all of the same quality. That is, there are graduates of a higher plane and there are those of a lower plane. By examination a good many of those that are barely qualified are culled out.

(3) As soon as the regulars create a precedent by which graduates from accredited schools can be licensed without examination, then the cults will do likewise. They will go before legislatures and endeavor to pass laws by which graduates from their medical schools can be licensed without examination. In this way the matter of licensure of all irregulars will pass entirely out of the hands of regular medical examining boards and basic science boards.

(4) The licensing boards are representatives of the state. Whenever the graduates from these schools are licensed without examination the state loses its proper control. The matter of licensure of these physicians will no longer be intrusted to the state, but will merely be intrusted to the medical schools.

In one of the discussions it was brought out that it might be well for the examining boards to recognize the graduates of A-Schools in their own respective states without further examination.

—H. J. Lehnhoff, Lincoln.

NATIONAL CHILD HEALTH DAY

A window closed yesterday and today left open, a new softness in the air, more warmth and gold in the sunshine, a quickening in the soil, the flight of wild water-fowl, mating among the animals, the pulse of life beating more strongly in the human soul—and spring, the season of May Day festivals, is at hand.

In every country and from days long before the coming of the Christian era, May Day festivals have given expression to man's joy in the fact of life itself, his gratitude for the fundamental gifts of food, sunshine, clement weather, fecundity of earth, opportunity for work and for the continuance of life.

In the United States, May Day—now by Act of Congress National Child Health Day—is likewise dedicated to happiness. There is joy, laughter, song and the rythm of dancing feet. But there is more than this. There is the hope of seventy-five million people for the young life of their children. There is the gathering of communities not only to be happy and rejoice but to take upon themselves the responsibility of "lifting their children to higher opportunities than they themselves have enjoyed." This is the passion that influences the hearts of our people on May Day—National Child Health Day.

The observance this year draws added fervor from President Hoover's recent White House Conference on Child Health and Protection, for the programs which are proposed to further the health and happiness of the child, "regardless of race or color, or situation, wherever he may live under the protection of the American flag," are based upon the nineteen points of The Children's Charter, which was drawn up and adopted by those who made the Conference investigations.

Who are the children of the nation, the little boys and girls in the nation's homes?

They are the children of rich and poor, normal children and handicapped children, gifted children and dull children. Some of them bear burdens of work beyond their years and are in danger of exploitation. Some of them, in the next year, will be sick with sicknesses that could be prevented. Some of them have the wide stretches of country in which to run and play and swim and fish; others must play in the city streets where the hazard of accidents shadows their heedless steps. Many of these children go happily and normally from home to school in the morning and back home at night; but many others are runaways from school, the childish truants from whose number the delinquents of tomorrow will so largely be drawn. The children of our nation are sheltered most often in the homes of their fathers and mothers; but they live also in institutions and in foster homes. They are forty-five million children, differing in circumstances, personality, opportunity and ability, but each possessing the gift of life and each endowed with inalienable rights to fulfill to its maximum his capacity for health of body, mind and spirit and to enjoy the happiness that results therefrom. Whoever they are, whatever they are, wherever they live, they are our children today and the nation's citizens tomorrow.

Therefore each of us is challenged on May Day—National Child Health Day to take a share of responsibility for the health and protection of the children in our midst and to secure for them the rights named in The Children's Charter as the first rights of citizenship.

—American Child Health Association.

"A NOTABLE EXPERIMENT": THE PUBLIC ACTIVITIES COMMITTEE'S WORK

The February number of *California and Western Medicine* touches of the work of the publicity committee of the Nebraska State Medical Association in part as follows:

> "More recently a unique health plan and campaign has been tried out in Nebraska, largely under the leadership of E. R. Hays, M. D. For the last half dozen years or so, under Doctor Hays' guidance, the Nebraska State Medical Association has been operating exhibits and health education programs at the state and other fairs in Nebraska. Doctor Hays read a paper on the subject at the 1929 American Medical Association conference of state medical association editors and secretaries at Chicago. The editor of California and Western Medicine was so impressed therewith that a budget provision was made by the Council of the California Medical Association for initiating this work in California. The standing committee on health and public instruction was requested to make a further study of its feasibility in California, and to report thereon to the Council. Because of the important possibilities of such work, this special comment thereon is here made in the hope of enlisting cooperation throughout the state.
>
> "In the miscellany department of this number of California and Western Medicine is also printed a list of the different fairs which are annually held in California. See page 136.
>
> "An inspection of that list, with a knowledge of the hundreds of thousands of lay citizens who attend such fairs, at once indicates how valuable this type of publicity could be made in the promotion of preventive medicine and of legitimate public health work.
>
> "This Nebraska plan of a Health Education project and campaign has been most successfully carried out in that state. It could be made equally valuable in California. With the cooperation which should be given, it could be made a success and be of great value in the states of California, Nevada and Utah."

NEBRASKA TUBERCULOSIS ASSOCIATION MEETING AT KEARNEY

A one-day clinical and scientific program bearing upon tuberculosis will be presented on April the 30th at the State Hospital at Kearney, the program to start at about 10:00 a. m. An address by Dr. Henry Sewall of Denver under the title "The Environments in Tuberculosis", an address by Dr. J. A. Myers of Minnesota on "Childhood Tuberculosis", a paper by Dr. Miles Breuer of Lincoln on "Diagnosis", a paper by Dr. Clarence Emerson of Lincoln on "Surgical Indications in Pulmonary Tuberculosis", followed by clinics and round-table discussions by Dr. Heagey and myself, will be conducted, using cases at present in the sanatarium.

A general invitation is extended to all doctors.

—John F. Allen, M. D., Chairman.

THE MEDICAL "HAMMER AND ANVIL" CLUB

In every city and town where there are a half dozen or more physicians you will find a medical "hammer and anvil club" the membership of which is composed of a few physicians in the community who make it a practice to "knock" all the other doctors in the community, and especially the ones who are the most successful. Sometimes "knocking" is due to jealousy, at other times to real or imaginary grievances, and occasionally it is due to just downright cussedness or a cultivated practice to say no good word or have no kind thoughts for any confrere. It is time for those "hammer and anvil clubs" to quit business entirely, for right now there is urgent need for cooperation and encouragement of professional friendship between medical men. We are "knocked" by the laity enough without "knocking" among ourselves.

—Editorial Note, Indiana Medical Journal.

CLINICAL SIGNS OF HEART DISEASE

James B. Herrick, Chicago (*Journal A. M. A.*, Nov. 29, 1930), asks: Why should not physicians employ in diagnosis the classification suggested by the Heart Committee of the New York Tuberculosis and Health Association, which is in conformity with the nomenclature for cardiac diagnosis approved by the American Heart Association? The case of aortic leak might then be called syphilitic aortitis with aortic regurgitation, cardiac hypertrophy, regular sinus rhythm, class 2 A; i. e., activity slightly limited. Here the etiologic and pathologic anatomic features are plainly set forth with the clinical and functional facts also considered. The case of mitral stenosis may be described as rheumatic mitral disease with stenosis, auricular fibrillation with activity seriously limited, classed briefly as class 2 B. Again, etiology, anatomic pathologic lesion and functional capacity are expressed. All of these features may with advantage be included in the diagnosis. In a discussion of clinical signs of heart disease with particular reference to etiology, the questions involved are difficult, the answers somewhat uncertain. Too many cases are encountered in which even with greatest care the cause of the cardiac symptoms may escape detection. But it is only by trial and search that knowledge will come. The search for causes, the comparison of results, together with statistical, clinical and necropsy studies will enable one to be more accurate in the diagnosis than has been the case in the past. To be impressed by the lack of uniformity in diagnosis, one has only to go to the health department of any large city and look over the causes of death as recorded on the death certificates. Syphilis as a cause is rarely put down, largely because of the physician's desire to shield the reputation of the dead man and his family. Pericarditis, endocarditis and myocarditis and angina pectoris are in evidence. On the whole, the diagnoses are vague and lack uniformity. A statement on the death certificate as to the cause of the disease, or even that the cause was unknown, would be helpful. It would show to the student of statistics that this point had been considered and would permit of deductions that would otherwise be unwarranted. Herrick offers suggestions.

FEDERAL SUBSIDIES TO STATE GOVERNMENTS

I take this occasion to state that I have given much thought to the question of federal subsidies to state governments. The federal appropriations for such subsidies cover a wide field. They afford ample precedent for unlimited expansion. I say to you, however, that the financial program of the chief executive does not contemplate expansion of these subsidies. My policy in this matter is not predicated alone on the drain which these subsidies make on the national treasury. This of itself is sufficient to cause concern. But I am fearful that this broadening of the field of government activities is detrimental both to the federal and the state governments. Efficiency of federal operations is impaired as their scope is unduly enlarged. Efficiency of state governments is impaired as they relinquish and turn over to the federal government responsibilities which are rightfully theirs.—Addresses of President Coolidge at the meeting of the Business Organization of the Government, January 21, 1924.

FLEXIBLE FEES

Time was when the physician's fee was looked on a sort of honorarium, and occasionally one still detects a rather pleasant tinge of that feeling. However, for a great many years, through a general understanding or through the more definite arrangement of county medical society fee tables or the like, the profession has adopted more or less fixed fees for certain services. Charges for office calls in Gopher Prairie undoubtedly are different from those in Milwaukee and more different from those in New York; and yet each separate community knows its commonly paid fee. The custom has arisen of making these fees somewhat elastic and of adjusting them to the reputation of the physician and to the patient's means. To my mind the variation in fee should be made far more general than is the custom, because of the frequent disproportion, one way or the other, between the fee and the service.

I wish to make a plea for individualizing our charges with particular consideration of these three factors: the physician's qualifications, the patient's ability to pay, and the service rendered.

The patient's ability to pay is often a difficult matter to determine. Intimate, continuous contact between physician and patient or family, such as our fathers experienced, is becoming less and less frequent, especially in cities. Hence the physician is less likely than formerly to know what his patient is capable of paying. It is wise, therefore, to make a routine practice at the first interview with a patient. when it may be done without embarrassment, to secure sufficient data to give a fair appraisal of his financial status and responsibility. The place of residence, the business of the head of the house, the duties of his position, the vacation and recreational customs of the family, and like pertinent facts can be elicited by a few tactful questions and jotted down as a part of the record. With these facts and a frank interview, if necessary, the way is paved for a just accounting.

The adjustment of the fee to the service rendered concerns the surgeon, the obstetrician and other specialists just as it does the general practitioner. One appendectomy may take twelve minutes in the routine of a morning's work, and the next may take two hours out of the middle of the night; a house call may take five minutes to glance at a chart or ask a question or two, and again it may keep the physician away from a busy office hour. The fee should be charged appropriately to the service and not under the influence of the memory of any fee table.

I am sure that this adjustment of charges to meet the patient's circumstances, and the service or accommodations provided, is the accepted policy of most hospitals and laboratories. I am glad to testify that I have never yet known of the refusal of a reasonable request for such an adjustment.

—A. T. Holbrook, Federation Bulletin.

ANOTHER VETERAN OF FIFTY YEARS OF MEDICAL PRACTICE: DR. THOMAS H. LINE

Dr. Thomas H. Line, a respected member of the Nebraska State Medical Association, since 1886, was graduated from Rush Medical College, Chicago, February 22, 1881, and has therefore rounded out fifty years of the almost ceaseless grind of general practice and feels that he has done some good in the profession, although he has not accumulated a fortune in gold, having, as his late wife told him "too big a heart to practice medicine".

DR. THOMAS H. LINE

Doctor Line was born at Boonsboro, Maryland, April 21, 1858, within what became the lines of the battles of South Mountain and Antietam and remembers the thunder of the shells as they passed over his childhood home.

He taught school in Washington county, Maryland, Washington county, Nebraska, and in Illinois in the seventies, attended the medical school at Ann Arbor several winters and was graduated from Rush,—where he was assistant demonstrator of anatomy—in 1881 as above stated. He was an interne in Cook County hospital for a time. He practiced in Illinois for 18 months before coming to Marquette, Nebr., in the spring of 1883, where he was destined to remain 34 years. In 1917 he moved to Central City from which place he has just recently moved to Grafton.

Following the illness and death of his wife in 1929, Doctor Line suffered a breakdown, requiring retirement from practice for several years and upon his recovery he recently elected to go to Grafton and serve that community during his later years.

Wherever he has lived Doctor Line gave his best to the community in civic affairs as well as in medicine. Thus it was that he platted the village of Marquette, fixed its boundary lines—when it was incorporated, wrote the first Ordinances—and was the chairman of the first village board; established the *Marquette Independent*; was county coronor of Hamilton county; was secretary of the pension board at Aurora five years; was county physician of Merrick county; served on the exemption board during the World war; city physician of Central City 11 years; served on the pension board at Central City ten years. In 1918, due to the war-time scarcity of physicians, he was impressed into service as physician at the Genoa Indian school for a six months' period. He has always been a close student and some years ago after reading Sajous' work on the internal secretions he published an article advocating substantially the present Coffey-Humber treatment for cancer. He has done some writing in advocacy of certain treatment for undernourished and underprivileged children and in advocacy of regular public school examinations and public health matters. He has done considerable writing on historical matters and some of his other writings have been pronounced good literature. During the past two years he wrote the Report on Foreign Correspondence for the Committee on Foreign Correspondence of the Grand Council Royal and Select Master Masons of Nebraska.

Of his earlier experiences the doctor naively says he made calls in the country on foot, horseback, lumber wagon pulled by horses, mules, oxen, by combinations of all of them, and on one occasion he was taken in a light buggy pulled by two large dogs; has taken care of patients under the most unsanitary conditions and had them get well and under the best conditions and had them die; he delivered a patient in a pullman coach, in a sod house, in the open air—not even a covering over the head,—in dugouts and in houses where it became necessary to kick hogs and dogs from underneath the bed, as well as in houses furnished with the best of everything to be had.

Truly, this story of fifty years of practice is a colorful one. Let us therefore wish with the subject of this sketch that when his work is done he may pass as one who lies down to pleasant dreams.

THE EDWIN SMITH SURGICAL PAPYRUS II

Instructions Concerning a Wound in the Head, Penetrating to the Skull: "If thou examinest a man having a wound in his head, penetrating to the bone of his skull, but not having a gash, thou shouldst palpate the wound; shouldst thou find his skull uninjured, not having a perforation, a split or a smash in it, thou shouldst say regarding him: One having a wound in his head, while his wound does not have two lips, nor a gash although it penetrates to the bone. An ailment which I will treat. Thou shouldst bind it with fresh meat the first day and treat afterward with grease, honey and lint until he recovers." (Case I).

Comment: The Smith Papyrus is a surgical treatise evidently written for students as the context implies; it is addressed to the third person. By not having two lips is meant the wound is narrow, not wide, without gaping, one lip from the other. The prognosis of the case is implied in the sentence "An ailment which I will treat".

PROCTOLOGIC HINT NO. VII

When a perirectal abscess is opened a guarded prognosis must be given, as to whether or not, it will heal because most of the perirectal abscesses are potential fistulae.

—L. E. Moon, Omaha.

The Journal and the Cooperative Medical Advertising Bureau of Chicago maintain a Service Department to answer inquiries from you about pharmaceuticals, surgical instruments and other manufactured products, such as soaps, clothing, automobiles, etc., which you may need in your home, office, sanitarium or hospital.

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EDITORIAL PARAGRAPHS

The Christmas Seal sale in Nebraska the past winter brought in about $33,000.

The annual meeting of the American Association for the Study of Goiter will be held at Kansas City, April 7-8-9.

So many cesarean operations are being done nowadays, it seems about time to adapt the zipper idea to womankind.

The annual meeting of the Nebraska Academy of Science is scheduled for May 8 and 9, at the University of Nebraska, Lincoln.

To comply with postal regulations, the names of all unpaid members must be removed from the mailing list of the Journal after this issue.

The binocular ophthalmoscope has made its appearance as a practical and useful instrument; also its handmaid, a stereoscopic picture machine.

We are promised a series of short articles on the White House Conference on Child Welfare and Protection by Dr. Palmer Findley for future issues of this *Journal*.

The Sixteenth Annual Meeting of the American Public Health Association will be held in Montreal, Quebec, September 14-17. The Windsor Hotel will be headquarters.

The Third Congress of the Pan-American Medical Association will be held in the City of Mexico under the auspices of the Mexican Government from the 26th to the 31st of July.

The organized profession in Omaha has asked for blood donors from those who have suffered infantile paralysis. The response has been very generous and the profession looks hopefully to the treatment of future cases of the disease.

Preliminary announcement has been made of the forthcoming Post-Graduate Course to be given by the University of Nebraska College of Medicine May 4-11, so planned as to immediately precede the annual meeting of the Nebraska State Medical Association.

To give an inkling of the amount of medical and surgical service rendered by a railroad to its employees, patrons and tresspassers, it may be stated that the report of the Union Pacific Railroad indicates that 55,608 patients were treated during the year 1930.

It goes without saying that hospitals should have libraries and periodicals should be available to patients whose conditions allow them to read. In the sun parlor of a famous hospital visited by this editor recently the literature available in the sun parlor consisted of a copy of *Time* dated April, 1930.

It is heredity or environment that counts? It must be one or the other: it cannot be both. Recently the son of one of our past presidents was appointed to an important federal position. The press commenting on the appointment stated that he is the son-in-law of Mr. "Blank". Evidently paternity does not count.

The Dick scarlet fever toxin is regarded as a safe and efficient immunizing agent against scarlet fever. The main drawback to its use appears to be that several injections, generally not less than five, must be given before such a degree of immunity is established that the subject no longer gives a positive Dick test. (*Jour. A. M. A.*, February 21, 1931, p. 633).

Health Commissioner Pinto of Omaha reports that 15,000 persons in the South Side, mostly school children, have been vaccinated against small-pox as a result of an intensive campaign. Health and disease prevention propaganda, if intensive, do bring results, but it takes a lot of effort, too much, to educate the public to the need of prophylactic measures.

Two Nebraska physicians have become connected with the Veterans' hospital at Lincoln on the regular staff—Dr. R. D. Green, well known physician of Beaver City, and Dr. John T. Eagleton, who comes from Himes, Illinois, but who was formerly located at Murray, Nebr., and who is a native of Decatur and a graduate of the University of Nebraska College of Medicine.

The first phase of an inheritance case reported several months ago in which a child was born, but did not breath, to a widow several months after the husband's death, was decided in the widow's favor. The testimony was that the child's heart beat for 20 to 30 minutes after birth, but did not breath. The probate court decided this constituted viability. This sounds logical. The parents of the deceased husband claimed half of the estate.

It is stated on authority that: Eighteen per cent of the private duty nurses in a representative group of 24,389 nurses reported that they will not take obstetric cases if they can avoid it. When the records of 15,694 young graduates, in the 1928 class, were examined, it was found that about eighteen out of one hundred have had either no practical experience, or inadequate experience, in caring for maternity patients during their entire training.

Comment in a monthly periodical on legislative matters is an almost hopeless task during the session for the reason that the ten days elapsing between the time of going to press and date of issue may change the situation entirely. Most likely by the time this number appears the Legislature will have adjourned. A number of bills have been introduced of varying interest to the medical profession. A pretty safe guess would be that nothing serious will happen.

The approach of spring again directs thought to sanitation. An annual habit—removal of the winter's accumulation of refuse—comes into activity. Civic pride plays an essential and important part in this "clean-up" process, particularly with reference to thoroughness. Local boards of health will prove their value to the respective communities by promoting sanitary improvements of a practical nature. The responsibility of authorizing and supervising tourist camps places the local Board of Health in a position of especial usefulness, which is reflected by the sanitary condition of these camps. Uniformly clean, well managed tourist camps soon become widely known. Sanitary camps should be Nebraska's pride.—State Bureau of Health.

Even a governor is not all-wise when it comes to dealing with public health matters. Governor Bryan opposes an appropriation for tuberculosis eradication among cattle on the long discarded theory that bovine tuberculosis is not transmissable to humans. Dr. Allen K. Krause, of the National Tuberculosis association, says: "There is no longer any doubt concerning the general thesis that the bovine tubercle bacillus is of significance for human beings. Given the opportunity, that is the prevalence in any community of milk contaminated by the living bovine tubercle bacillus and the practice of drinking this milk, especially by infants and children, and tuberculous infection with the bovine bacillus is bound to occur. That it does occur has been abundantly proved by unimpeachable work."

When warning against the drinking of Jamaica ginger extract, Surgeon General Hugh S. Cumming of the United States Public Health Service, stated today that he wished to emphasize that he has reference entirely to the improper or illicit use of that product only. "Ginger itself is one of the best known and highly praised condiments. It is wholesome and tonic in its effect when properly used--in foods and beverages. It has been so used from Biblical times and there is no reason to question its purity and safety when it is consumed in the food products of reputable manufacturers. The warning against the drinking of Jamaica Ginger extract has to do entirely with the drug product. The cases of paralysis which have been reported have been found, in every instance, to have been caused by the improper and illicit use of this drug product as a substitute for alcoholic liquor, and because of the fact that some unscrupulous manufacturers have marketed a preparation in which a poisonous adulterant had been used in place of real ginger."

"The March, 1931, issue of The Radiological Review (Chicago) is devoted entirely to Radium, and is the fourth annual 'Radium Number' of this publication. All the articles are written exclusively for this issue, and collectively, they can be considered to present the present status of Radium Therapy as practiced in this country. The presentations are from among the leading radium therapists of America and include such names as Healey, Levin, Kaplan, Eller and Fox of New York, Simpson of Chicago, Quigley of Omaha, Withers of Denver, Keith of Louisville, Murphy of Minneapolis, Bowing and Fricke of Rochester, Minnesota, etc. Interest in radium is not on the wain, but on the contrary is becoming more firmly established in our armamentarium. While it is true that radium is useful in a comparatively small number of afflictions to which the human body is heir, it is so effective that it is truly 'invaluable.' Who will deny the remarkable results achieved by radium in the treatment of skin cancer, menopausal uterine hemorrhage, carcinoma of the cervix, and certain types of nevi?"

THIS MONTH IN MEDICAL HISTORY

April, 1931

1431—Joan of Arc was captured at the siege of Compiegne and after a long trial for heresy was burned at the stake.

1631—The most important astronomical discoveries of Galileo who had invented the telescope in 1609, were being perfected for publication at this time and appeared at Florence during the following year. He had been a successful teacher at the University of Padua from 1592 to 1610.

1831—The splendid life of Sir Humphrey Davy by John Ayrton Paris, in two volumes, was published in 1831. Davy had announced in 1800 that nitrous oxide might be used as an anesthetic in surgical operations "in which no great effusion of blood would take place".

1831—Marshall Hall, famous physiologist, published his essay on the circulation of the blood in 1831. He made many contributions to our knowledge of the nervous system and devised the Marshall Hall method for resuscitating the partially drowned—still in use.

1831—In 1831 the first periodical devoted to physiology had already been published by Magendie (1783-1855) for ten years. Magendie made many interesting and important physiological demonstrations by vivisection. He proved the correctness of Bells view regarding the motor and sensory functions of the anterior and posterior spinal cord roots.

1831—Broussais (Francois Joseph Victor) 1772-1838. Son of a Breton physician was at the height of his influence as a practitioner and teacher in Paris. He had been an Army Sergeant and sailor and served as a surgeon with Napoleon. He advocated depletion by dieting and leeches. Many of his radical teachings were controverted by Louis (1787-1872).

1831—In 1831 Andrew Jackson was President of the United States. He was a successful practical statesman or politician of great ability but not in favor with the intellectuals of his time. Of his honorary degree conferred by Harvard, John Quincy Adams said "I would not be present to witness her disgrace in conferring her highest literary honors upon a barbarian."

1681—Just two hundred and fifty years ago in 1681, John Baptist Branchi, a famous anatomist and surgeon, was born at Turin, Italy. He took his medical degree at the age of seventeen and was a professor at Turin until his death in 1761.

1699—Antonio Nunez Ribeiro was born in Portugal. He was a student at Coimbra (the only University in Portugal. transferred from Lisbon in 1308—where it was founded in 1290), Salamanca, London and Leyden. Upon the recommendation of Boerhaave he was selected in 1731 by Anne of Russia to be physician to her army and later first physician at court. He retired to Paris in 1742 and died there in 1783.

1731—St. Martins Church was built at Fenny Stratford, Buckinghamshire, England, in honor of Thomas Willis by his grandson, Browne Willis. Annual memorial services have been held since 1734.

1731—Daniel DeFoe, author of ""The Adventures of Robinson Crusoe" and a "Journal of the Plague Year", died in London in April. 1731. This Journal written as if the results of personal observation was in fact purely fiction but has since been shown to be well authenticated by literary research on the part of DeFoe. He was an industrious and competent writer but not highly esteemed by some of his contemporaries. He had political and financial difficulties during his earlier years but eventually attained permanent fame both for his originality and industry.

1831—The first epidemic of Asiatic cholera, which had been known in the East Indies a thousand years before, was raging in Central Europe in 1831. The disease came to America the following year, having come by way of Quebec.

NECROLOGY

Wesley L. Curtis, Lincoln, Nebr.; native of Tecumseh; Rush Medical College, 1896; well known and faithful member, Nebraska State Medical Association since graduation; instructor in anatomy, Omaha Medical College while located at South Omaha, about 1897-8; located at Cook for a time; in the Coast and Geodetic Survey in the Philippines for several years; on his return established an eye, ear, nose and throat practice at Fairbury, moving to Lincoln in 1918 in association with Dr. J. J. Hompes; sometime president, Lancaster County Medical society; died March 10, 1931, of apoplexy and pneumonia in an Omaha hospital where he had submitted to a kidney operation a week previously, aged sixty-one years. A widow, two daughters and a son survive.

Fred Hoffmeister, Imperial (retired), native of Holzen, Germany; University of Goettingen, Germany, 1877; practiced two years in Germany and came to Nebraska in 1879, locating first at Charleston, later at Odell where he remained about three years, when he located at Ainsworth about 1884, where he remained until 1887 when he moved to Imperial. He was county treasurer of Chase county two terms and served in the Nebraska legislature three terms, and always took a leading part in medical legislation. He died February 22, 1931, aged seventy-seven years. Dr. George Hoffmeister, Imperial, is a son of the deceased.

Charles D. Hustead, Aurora, Nebr., native of Rutledge, Mo.; University of Louisville, Ky., 1891; physician at Aurora for the past 18 years; first located at Atlanta, Nebr., in 1891, where he remained one year, later moving to Phillips, where he practiced about twenty years before locating at Aurora in 1912; member Nebraska State Medical Association; member, medical corp of the army in the World war in the air service at Kelly Field, San Antonio, Tex., later at Rockwell Field, San Diego; died February 21, 1931, aged about sixty-eight years. He is survived by a widow, three sons and one daughter.

E. C. Wittwer, Mountain Grove, Mo.; native of Sabetha, Kansas; Kansas City Medical College, 1905; St. Louis University School of Medicine, 1908; in practice at Humboldt for a number of years; a veteran of the Spanish American war and of the Mexican Border patrol; medical officer of the World war overseas; died about March 1, 1931, aged about fifty-seven years.

Emma J. Lawrence, Falls City, Nebr.; native of Oregon, Illinois; medical college data unavailable; for a number of years on the medical staff of the Nebraska Institution for the Feeble Minded at Beatrice; died March 5, 1931, at the age of seventy-two years.

J. B. Hardy, Reno, Nev.; St. Louis University College of Medicine, 1902; a practitioner at Stanton a score of years ago; located in Reno since 1910; a former member, Nebraska State Medical Association; died February 19, 1931, aged fifty-two years.

TUBERCULOSIS ABSTRACTS

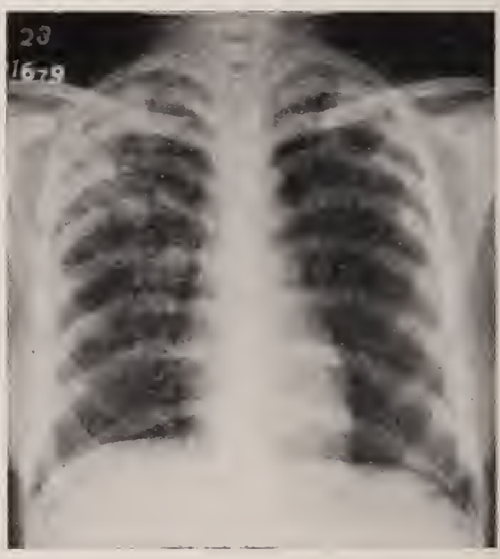
A REVIEW FOR PHYSICIANS

By The National Tuberculosis Association

Adolescence is a period of strain. Youngsters who have, during the earlier years of childhood, been massively infected with tubercle bacilli are likely during the teen age period to develop the adult type of tuberculosis. It is during high school years that the destiny of many of these children is decided. This is reflected in the steep rise in the death rate curve during the late teens and early twenties. Walter L. Rathbun has, since 1923, made a systematic search for early tuberculosis, regardless of symptoms, by means of the tuberculin test and the x-ray. He has recently completed the task of examining practically every high school pupil in Chautauqua county, New York; namely, 7171 children. His experiences are recorded in a special publication, from which these abstracts are derived.

TUBERCULOSIS AMONG HIGH SCHOOL STUDENTS

Examinations of school children for early tuberculosis began in Chautauqua county, New York, in 1923, by sending to local clinic centers (a) pupils physically below par, (b) those who had symptoms referable to tuberculosis and (c) those who have been exposed to the disease. The results of the first year's efforts were enlightening, but since facilities were limited, it was decided the next year to examine only the high school groups because these children leave school first. Each high school student was given a chest examination without reference to family history, height-weight ratio, or symptoms. The results justified the procedure as many cases of tuberculosis were found among those in whom it was least suspected and who were apparently perfectly healthy.



Mottling in right upper and upper part of lower lobe, cavities in right upper, scattered mottling throughout upper two-thirds of left upper lobe with cavity near apex. Calcified lymph node above sternal end of left third rib, indicating presence of childhood type lesion.

Girl, 15 years old, very active in scholastic, social, and athletic affairs. Denied symptoms until questioned closely. Diagnosis made during routine school x-ray examination.

Of the students so examined, three groups were then x-rayed: (a) those with suggestive signs of pulmonary tuberculosis; (b) those in actual contact with a case of tuberculosis; (c) those with a history of previous or present symptoms referable to tuberculosis. All such children were transported to Newton Memorial Hospital, where they were x-rayed. This procedure continued during 1924 and 1925, when the plan was broadened by carrying the diagnostic work directly into the schools.

EXAMINATIONS MADE IN SCHOOLS

The Chautauqua County Tuberculosis Association furnished funds to purchase a portable apparatus and x-ray films which made it possible to do the work in the school buildings. Incidentally, while it is true that the portable x-ray machine has its shortcomings, it is capable when properly handled of revealing lesions of the childhood and the adult type. The few cases in which more detail is needed may be x-rayed with a high-powered machine. The utility of the portable apparatus is a distinct advantage, and having the examinations made in the school arouses interest among school people. Stereoscopic sets of pictures were made routinely.

In 1926, the mode of procedure was again modified. Students were taken from the study halls and x-rayed, and only those with definite or suspicious signs were given a physical examination. This speeded up the work and also increased the percentage of positive cases. The tuberculin test was not insisted upon as a routine measure at that time because public opinion was not favorable to its use, whereas x-ray examinations were heartily approved.

In 1927, the intracutaneous tuberculin test was introduced as the first procedure in diagnosis. A specially trained nurse made the test and read the reaction, thus saving valuable time of the physician. It was necessary to secure the consent of parents to make the test; hence, the percentage tested was reduced to about 50 per cent. Positive reactors only were x-rayed.

INTIMATE CONTACT IMPORTANT FACTOR

These studies indicated that tuberculosis disease of the lungs and tracheobronchial lymph nodes results from prolonged and intimate, rather than casual, exposure to tubercle bacilli. Intimate exposure most commonly takes place in the home. It was found that the percentage of positive reactors was greater among children living in the city of Jamestown (44%) than among similar groups in the villages (25%) but that the incidence of tuberculous disease of the childhood type was about the same in rural and urban areas. Apparently, while casual contact (which is more common in cities) may be the starting point of an infection as revealed by the tuberculin test, it is incapable of causing demonstrable disease in most cases. Intimate contact with a sputum positive case of pulmonary tuberculosis is the usual cause of the disease. In 54 per cent of the families of tuberculous children, a parent had either died of the disease or had pulmonary tuberculosis at the time. In 17 per cent of the families, there was a parent with suspicious signs of tuberculosis. In some cases, the "spreaders" were older siblings, in one, a nurse-maid, and in another, a boarder.

RESULTS OF STUDY

During the past seven years, 30,000 pupils, 7171 of whom were of high school age, have been examined, with the following results:

	Number	Per Cent
Negative to tuberculin test	570	7.9
Negative on x-ray	5676	79.2
Children requiring observation	538	7.5
Childhood type tuberculosis	250	3.5
Suspect adult type tuberculosis	50	.7
Adult type tuberculosis	60	.84
Miscellaneous	27	.36
	7171	100.

Cases of childhood tuberculosis were 15 per cent higher for females than for males, while the morbidity for the adult type was 43 per cent higher among females than among males.

Many of the arrested cases continued school work but were given eight weeks' treatment in a high school health camp located on the grounds of the hospital. During the past two years, a high school has been conducted for students under treatment in the hospital. Local school authorities are well satisfied with the experiment. For ambulatory cases and some bed cases, school work is the most profitable kind of occupational therapy.

PROTECTING THE STUDENTS' HEALTH

The tendency in modern schools is to push the students to the limit of their capacities. Healthy children can stand the pace, but not those who are below par physically. Therefore, those with physical disabilities, real or potential, must be searched for and protected from overwork. Similarly, sports and competitive athletics must be curtailed for the physically handicapped. Rough handling and excitement are heavy drains on the body reserve and frequently precipitate a breakdown. School authorities in Chautauqua county co-operated admirably in protecting those who needed protection.

The public schools are logical centers for the dissemination of medical knowledge about tuberculosis, just as they serve as convenient units for discovering cases. Every student should be examined before graduating and certainly before working papers are granted.

Of course, no child with positive sputum should be allowed to attend school lest he infect his fellows.

"Every available resource that can be spared should be devoted to the public school field, for in the control of tuberculosis our hope of success in the years to come rests largely upon the care of the youths of today."—Health in High Schools, Walter L. Rathbun, National Tuberculosis Association.

PANORAMIC VIEW OF THE WOMAN'S AUXILIARY TO THE A. M. A., IN FOUR ARTICLES

2. NORTH CENTRAL STATES

Mrs. James Blake

According to the Constitution and By-laws of the Auxiliary to the American Medical Association the organization program is carried on by the active work of the vice presidents. Mrs. Southgate Leigh, of Norfolk, Va., is first vice president and automatically chairman of organization. Due to her location on the map the second vice president finds herself interested in the destinies of the North Central group of states.

Looking backward, with pleasant memories to Detroit, and forward with delightful anticipations to Philadelphia we find this group of states all doing something of common interest.

In the January Journal of the Indiana Medical Society, the Auxiliary president stresses the importance of more constructive work on the part of her organized county groups. "Physicians' wives", she says, in her New Year's Address, "hold an enviable position in being privileged to have a part in a world wide health program, and I would urge every physician's wife, to bring before other women dependable knowledge, and a just appreciation of the real spirit and purpose and actual achievements of the medical profession". So from Indiana we know we are to have constructive work during this year. Physicians as a class are not prone to participate in legislative matters but when four distinctly separate bills, which affect the profession, directly, are presented during one session of a State's Legislature, it is time to be up and doing.

Such is Indiana's situation this year and the doctors of the 7th district have thought it worthwhile to instruct their Auxiliary members on these subjects that their influence may be properly used. The Indiana Journal never fails to give the Auxiliary space, and it is little wonder the Indiana women are up and coming, when they have such Editorial Notes to enlighten and guide them in their constructive Program work, as one finds in this same Journal.

Kansas is slowly getting a few things accomplished. A world wide depression has rendered prophets quite fameless abroad as well as at home, but the Doctor's wife in Kansas is coming into her own, and we phophesy that the Auxiliary will climb to the top due to the indomitable spirit of the leaders in that state.

In Illinois the motto might well read—"Builders we are, and builders we must ever be. Builders, not in stone that shelters life, but builders in life". We find good constructive programs of well-balanced educational value, we find a Journal ever ready to broadcast Auxiliary news, and best of all we find a healthy organization line-up, and an Advisory Board from their Medical Society. Several of their county groups are having their members get busy with the "Health Audit Program".

One project of worthy mention comes from Vermillion County on the Eastern boundary of the state. The County Auxiliary put on the Health Institute in Danville last November. A member from every agency in the county working out any kind of a Health program, was included in the personnel of the speakers. It was for just one day, but it was worth 365 as a rouser for Auxiliary work. It really was sort of a Christmas Seal Campaign opening, a get together of club women, and P. T. A. groups in the County. And what a wise idea for a Medical Auxiliary to have the head lines in the plans for such a "Health Day".

Wisconsin, Iowa and South Dakota are among the latest states to join the National Auxiliary. Organization is the key note for their work, and the National Study Envelopes are offered as program material. Right now if the modern doctor's wife needs to get one thing more than another from her organization, it is the knowledge of what is going on in this world; especially the world of Medicine. Women are discriminating more carefully in the clubs they are joining. They are asking what membership will mean to them, what they will get out of it. For that reason the subjects for study should be more carefully chosen, and the roll call should be made to count for something more than jokes and quotations from forgotten poets. It isn't a pleasant feeling for a busy mother who rides miles to a meeting to say when it is all over—"I can't say I know any more now than when I started". And so we find these three states getting themselves established on a firm foundation, with the National program envelopes scattered far and wide to aid and encourage Auxiliary members, already in, and prospective members.

Montana and North Dakota are debating pro-and-con but as Mrs. Hoxie said in her Detroit report—"I believe it will be a mistake from now on to organize a new state, unless it appears reasonably certain that there is interest enough among the Doctors who want the Auxiliary, so they will foster it and stand back of it". And so we leave Montana half hearted about forming an Auxiliary, and North Dakota in the air.

We find Michigan giving intelligent co-operation with state and county officials. Women like men are interested in the improvement of civic affairs and healthful living and are realizing that they need to be armed with a definite knowledge of health laws and public health practices.

Missouri is in a very healthy condition. We find that Mrs. A. B. McGlothan, the President-Elect of the Woman's Auxiliary to the American Medical Association, will attend President Hoover's White House Conference for Child Health and Protection to be held in Washington, D. C., February 19 to 21. Mrs. G. H. Hoxie, the President for last year, will also attend the White House Conference.

Mrs. A. W. McAlester tells us, the women of Missouri are finding the Study Envelopes, published by the Education Committee of the Woman's Auxiliary to the American Medical Association, most interesting and instructive. The Studies on "Common Defects in Children", and on "Diphtheria", "Small Pox" and "Typhoid Fever' were recommended by the Department of Health in the Missouri Branch, National Congress of Parents and Teachers for use on Parent Teacher Programs. Eight hundred copies of each were distributed for use in Parent Teacher Units. Three hundred were requested and supplied for use in Parent Education Classes. Requests are constantly coming in for additional copies of the studies for use by teachers and Parent Teacher Units. The Department of Public Information of the Extension Division of the University of Missouri is including these studies in its suggested programs for clubs in the Missouri Federation of Women's Clubs, and P. T. A. programs. This department requested back numbers of Hygeia for use in such programs. Three hundred copies of Hygeia were supplied by women in the state and by the circulation manager and are being extensively used in club programs. The Missouri Chairman of Public Relations is planning to have a copy of each of the studies "Common Defects in Children", and "Communicable Disease Control", sent to each county school superintendent in the state. Several of the County Auxiliaries are using the study envelopes in their programs.

Mrs. M. P. Overholser of Harrisonville, Mo., has been appointed chairman of Public Relations in the Missouri Auxiliary. This Auxiliary maintains a scholarship for a medical student, per capita quotas being assigned to each county Auxiliary.

They also have sent in 30% of the total number of Hygeia subscriptions recorded from all Auxiliaries from January 1, 1930, to January 1, 1931. Some county Auxiliaries provide Hygeia for all their teachers. Among these are Buchanan, Gentry and Lafayette. Cape Girardeau County Auxiliary has just finished paying a $1,000.00 pledge to a hospital in the city and is now ready for another kind of work. They are a live group and certainly work hard to be able to accomplish so many wonderful worth while things.

Minnesota the North Star State has had a busy and successful year on organization. The President and Organization Chairman have visited over the state and planned meetings and Educational programs with many County Groups. In October the International Medical Assembly met in Minneapolis, and at this time the Hennepin County Auxiliary celebrated its twentieth Anniversary, by being hostess for five days to the visiting Doctors' wives. A great many social affairs and an Educational Day, which included a speaker on Public Health, were features. Hennepin County is having a year with a definite program. Each month a speaker is scheduled, and one meeting during the year is reciprocity day and each Auxiliary in the state is invited to send visitors. This group features Philanthropic work for T. B. patients at Glen Lake and do much for the Library at the Sanatorium. They have helped the Medical Society furnish their Library and Club Rooms spending $1,000.00.

Ramsey County does much the same work. They have a Scholarship Fund for Medical Students. St. Louis County is noted for work in the Public Relations Field. The State Medical Journal gives a page to Auxiliary news. One of the other Counties takes care of a Nurse's Scholarship. The Minnesota Auxiliary has a splendid Advisory Board and a page in the State Journal. The President will be one of the speakers on the program for the Annual Conference of Secretaries of the Component Societies of the Minnesota State Medical Association, to be held in St. Paul the first week in February. This is the first time the Auxiliary has been asked to take part in this Annual affair. Mrs. Hesselgrave's talk will be, "Uses of the Auxiliary".

And so closing my review of the work of the North Central Group of states may I say again—

Builders we are, and Builders we must ever be
Builders not in stone that shelters life, but
Builders in life itself—ever remembering the future of the world for generations to come depends upon what we think and will and do today.

ANNUAL SESSIONS,
AMERICAN MEDICAL ASSOCIATION,
PHILADELPHIA, JUNE 8 TO 12, 1931.

AUXILIARY NOTES

Coincident with the meeting of the Richardson County Medical society February 11, at Falls City. Mrs. Clyde Roeder, Omaha, who is chairman of organization of the state Auxiliary of the Nebraska State Medical association, spoke to the ladies regarding formation of a county auxiliary. She pointed out the benefits of such an organization in the community. A committee on constitution for the auxiliary was appointed, consisting of Mrs. Cole, acting secretary, Mrs. Egermayer and Mrs. Hustead.

On March 5th the newly formed auxiliary of the Richardson County Medical Society met for its first meeting. A dinner was followed by a business meeting at the home of Mrs. S. D. Cowan of Falls City. The following officers were elected:

Mrs. R. H. Miner, President, Falls City, Nebr.

Mrs. G. W. Egermoyer, Vice President, Shubert, Nebr.

Mrs. C. L. Hustead, Secretary and Treasurer, Falls City, Nebr.

Later in the evening the doctors joined the auxiliary and a lunch was served. Mrs. Cowan was assisted by Mrs. G. M. Green and Mrs. C. L. Hustead.

March 17th was not just another day in the social calendar of Lincoln, it had its distinctions,—an interesting affair was the benefit bridge of the Auxiliary to the Lancaster County Medical society. Tables were placed in the Venetian room at the Lincoln Hotel and although the afternoon's playing was a trifle more brief than usual because everyone had dinner before the opera, the prizes were such that it paid to play with a purpose while the games were in progress. Table prizes and grand prizes, donated by the friends of the auxiliary, were given.

The proceeds of this benefit are are to be used for the association. A part will go toward completing the files of the scientific books and magazines to be placed in the library of the society in the Sharp Building, and part to assist in the research work of the pathological laboratory in connection with the library.

The Adams County Auxiliary gave a Dutch treat luncheon at the Hastings Y. W. C. A. the first of March and played bridge afterward.

—H. C. R.

The Woman's Auxiliary to the Omaha-Douglas County Medical Society held its first regular meeting of the year January 30th at the Fontenelle Hotel. A large and enthusiastic attendance enjoyed the luncheon and were privileged to hear fine addresses by Mayor Richard L. Metcalfe, Dr. A. S. Pinto, and a most instructive address by Dr. C. W. M. Poynter, president of Council of Social Agencies and Dean of the Nebraska College of Medicine, who spoke on the County Unit and explained many points relative to proposed legislation.

Mrs. E. W. Rowe, President of the Woman's Auxiliary to the Nebraska State Medical Society, and Mrs. B. F. Williams, State Secretary, of Lincoln, attended as honor guests. Mrs. H. C. Miller presided.

The Woman's Auxiliary to the Omaha-Douglas County Medical Society also gave a musical tea January 19th at the home of the secretary, Mrs. Francis W. Heagey. About two hundred wives of members of the Omaha-Douglas County Medical Society attended during the afternoon and fully enjoyed the musical selections presented by Madame Eugenie Calachova of Lincoln, who sang Russian Gypsy songs, and violin solos by Mrs. G. Crawford Follmer, accompanied by Miss Eugenie Whitmore.

The Auxiliary has planned a very full year of philanthropic activities and we bespeak for it great success.

—Mrs. H. E. Miller.

NOTICE OF IMPORTANCE TO AUXILIARY MEMBERS

I again make urgent request that every Auxiliary member will heed her duties to her Auxiliary and send to me any names you may wish placed in nomination by the Nominating Committee for the following officers:

President-elect (Omaha Woman), Vice President, Treasurer and two Directors to replace the expired term of Mrs. Dent of North Platte, and Mrs. A. E. Cook, Randolph, Neb., and a Delegate to A. M. A. Auxiliary meeting in June at Philadelphia.

Mrs. A. E. Cook, Nominating Committee.
Randolph, Nebr.

NOGUCHI MEDAL

Phi Delta Epsilon, Alpha Chi Chapter of the School of Medicine, Creighton University, is offering annually a gold medal to commemorate the scientifc achievements of the late frater, Dr. Hideyo Noguchi, to a doctor of medicine, who, by his writings, his public utterances, his personal or communal activities, has advanced the cause of preventive medicine.

The award is open to men and women. The recipient must be a native of Nebraska or must reside in Nebraska at the time of the award.

The Committee on Award is composed of Dr. Hermann von W. Schultze, Dean of the College of Medicine, Creighton University, Dr. Charles W. McCorkle Poynter, Dean of the Nebraska University, College of Medicine, Dr. Philip H. Bartholomew, Director of Health, State of Nebraska, Dr. J. Stanley Welch, of Lincoln, Dr. Victor E. Levine, of Omaha, and Dr. Edward R. Hays, of Falls City.

The first award was made to Dr. Edward R. Hays, of Falls City. The medal was presented at Lincoln at the banquet of the Nebraska State Medical Association given in connection with the annual meeting.

Those interested are invited to suggest candidates to any member of the Committee. Communications must be in the hands of the Committee on or before April 15th.

THE SOCIETIES

Regular meeting of the **Omaha-Douglas County Medical Society,** February 24. Meeting called to order by Dr. Pinto.

Dr. Fouts reported that the entertainment committee had arranged with the Fontenelle Hotel for holding the state meeting, May 12, 13 and 14. at that hotel.

Dr. J. E. Summers was the first speaker and his subject was "An Emergency Substitute for Blood Transfusions, With Report of Illustrative Cases." This paper was discussed by Dr. Roeder and Dr. Peterson of Fremont.

Dr. Floyd Clarke talked on "Pneumonia in Children" and his paper was discussed by Drs. H. B. Hamilton, Tyler and Berry.

Dr. A. E. Connoly closed the scientific program with a paper on "Hirschsprung's Disease and Its Surgical

Treatment", which was discussed by Drs. Keegan, Floyd Clarke, Louis Moon and Henske.

—Abstracted from The Bulletin.

A regular meeting of the **Lancaster County Medical Society** was held in the society rooms on February 3. 1931, the president, Dr. S. E. Cook, presiding. There were no case reports.

The first paper of the evening was read by Dr. J. J. Loomis on "Hemorrhage During and After Labor". He introduced his paper by pointing out that hemorrhage is the third greatest factor in the maternal mortality rate. He mentioned abortion, ectopic hemorrhage, accident and placenta previa as causes of hemorrhage before labor. The two most important causes of hemorrhage during labor are ruptured uterus and cervical tears. The prevention of these accidents is more important than treatment. Careful diagnosis of dystocia and prevention of unduly long labor are important in the prevention of ruptured uterus. The use of ergot, pituitrin and thymophysin are frequent factors in ruptured uterus. Deep cervical tears may be the result of powerful uterine contractions, but usually result from improper interference. He discussed the inadvisability in attempting to determine the amount of blood which may do the mother harm because of the great individual variation. The paper was discussed by Drs. Harvey, Bowman, Morgan and Hansen.

The second paper of the evening was read by Dr. C. C. Hickman on "Management of Gallbladder Disease." He introduced his paper by remarking upon the mortality and morbidity of gallbladder surgery. He reviewed the local and general complications of persistent gallbladder disease. He pointed out that careful observation and preoperative preparation are practised in surgical treatment of prostate and thyroid disease, but that gallbladder patients are frequently operated upon without any attempt at preparation and without careful observation. He outlined a plan of management of gallbladder disease which he believes lowers the mortality in this surgical condition. This plan consists in a period of hospital care, varying from five to ten days before operative procedures are undertaken. During this time the patient is observed carefully with particular attention to liver damage and cardio-renal disease. If these are discovered attempt is made to fortify the patient from accident from these sources. Otherwise the management during this preparation period consists in rest in bed, administration of fluids in large amounts and administration of glucose, at first by mouth and immediately preceding the operation by intravenous route. Following the operation the fluids and glucose are continued in considerable amount. After the patient leaves the hospital any foci of infection are cleaned up. Dr. Hickman believes that under careful management the morbidity and operative mortality of gallbladder disease could be greatly decreased. The paper was discussed by Drs. Whitham, Andrews, Hohlen, Johnson, Covey, Breuer and Hickman.

The regular meeting of the **Lancaster County Medical Society** was held on February 17, 1931. At 6:30 p.m. about ten members entertained the guest, Dr. Walter L. Palmer of Chicago, at dinner at the University Club. At 8:00 p. m. he addressed the society in the Sharp Building on "Peptic Ulcer". The president presided and the speaker was introduced by Dr. John C. Thompson.

In the beginning Dr. Palmer dealt with the pathological and experimental phases of ulcers. He pointed out that ulcer has been demonstrated to involve the mucosa alone or all layers of the stomach. He referred to the fact that ulcer only occurs in the stomach or the adjacent visci, the esophagus and duodenum. He mentioned the theory of focal infection which he refuted by the lack of evidence that blood vessel occlusion ever exists with ulcer. He showed the method of Mann in producing experimental ulcer in dogs. This is done by dividing the small intestine in its upper portion and anastomizing the distal end to the pylorus and the proximal and to the mid intestine, closing the stump of the duodenum. By this method the acid gastric content comes in contact with intestinal mucosa and the duodenal content escapes into the intestine much lower down. Under these conditions ulcer invariably forms and has all the characteristics and complications of ulcer in man.

He pointed out clinical evidence that hyperacidity is always present with ulcer in man and that every case of achlorhydria which has been reported has been demonstrated on the evidence of a single Ewald test meal which is not reliable. He presented evidence that the hyperacidity is the cause of pain in ulcer and that hypermotility is not important in the production of pain. Finally he outlined the medical treatment which they are using which consists essentially in the Sippy regime. Commenting upon the surgical treatment, he stated that gastroenterostomy is safe and effective particularly in duodenal ulcer and that gastrectomy should be reserved for gastric ulcers. All of the evidence, experimental and clinical was demonstrated by means of lantern slides, and the address was very effective. Dr. Palmer answered a number of questions by the members and the meeting was adjourned without any business being transacted.—Lancaster County Bulletin.

The **Platte County Medical Society** held a meeting March 10, following a dinner to about twenty physicians present. Dr. Louis Moon, Omaha, proctologist, and Dr. Charles Moone, Omaha, gynecologist, gave addresses touching on their special lines of work.

The Seward County Medical Society met at Seward Feb. 20th. All members present but one. Dr. H. J. Wertman of Milford gave a case report of Acute Anterior Poliomyelitis which was discussed by the members. The next meeting will be at Seward March 26th.

The Madison Five County Medical Society met at Norfolk February 24 following a six-thirty dinner. About forty-five attended. Dr. C. Edward Sayre, Norfolk, presented a report of a number of cases of uterine cancer treated successfully by radium implantation, with no recurrence after a number of years.

Dr. D. T. Quigley, Omaha, spoke of the "Etiological Relationship of Malignant Disease". Doctor Quigley's conception is that local irritation is the cause of all cancer, whether that irritation is that of the old pipe on the lip, continued hyperacidity, or ulcer, of the the stomach, or the continued irritation of an infection—including syphilis—anywhere in the body. The remedy therefore is prompt eradication of all foci of irritation or of infection. Radium offers more in many cases than operation. Certain cases should have radium first and operation afterward, since radium tends to prevent metastasis if applied before operation.

Dr. K. S. J. Hohlen, Lincoln, president, Nebraska State Medical Association, spoke of "General Brain Conditions" and gave a number of slides to elucidate his talk. Diagnosis of brain conditions has advanced very much in recent years and the trained man can by exclusion and other diagnostic methods pointed out by him, arrive at a definite conclusion in most cases. Operative procedures, indicated, result in many cures, not dreamt of a few years ago.

The March meeting was held at the Hotel Norfolk on the evening of the 17th. Dr. and Mrs. G. E. Charlton were honor guests at the dinner which was attended by about one hundred physicians and ladies. The event was complimentary to Doctor Charlton who has been transferred to the Hastings State hospital after fifteen years' service at the Norfolk State hospital. Short talks were made by Dr. E. L. Brush and Dr. A. N. Howley, close personal and professional friends, voicing among other things, the appreciation of the Madison Five County Medical society of the interest of Doctor Charlton in organized medicine, his uniform courtesy and sociable attitude toward all and regret on his departure from the immediate community and wishes for his continued success. Dr. Charlton responded in a happy vein.

The scientific program for the evening was an illustrated lecture by Dr. Melvin S. Henderson of the Mayo clinic on Fractures. He outlined the most modern procedures and stressed the danger of malpractice suits.

The March meeting of the **Cheyenne-Kimball-Deuel Counties Medical Society** was held in Sidney Monday evening the second. Dr. R. E. Roche was host to the Society.

The first paper of the evening was presented by Dr. F. E. Palmer of Sterling, Colo. His subject being "Tularemia Infections". This was a very timely and interesting paper since there have been during recent years in this locality a number of such infections.

Dr. Palmer's paper dealt to some extent on Tularemia of the Eye. He stated there have been only 35 cases reported in the literature.

In conjunction with his paper Dr. Palmer also gave a moving picture film of the patient who had tularemia of the eye, showing the characteristic enlargement of the regional lymph glands, the edema and swelling of the lids, the ulceration of the lids and other diagnostic features.

In the systemic infections of this disease the cases are confined chiefly to rabbit dealers and laboratory workers with a few scattered cases from other sources. The infections occurring in laboratory having a very high mortality. The disease is never transferred from one human to another.

The disease is quite prevalent in the United States with the exception that no cases have been reported in Wisconsin, Washington and the New England states. In foreign countries cases have only been reported from Japan and England.

The treatment is entirely symptomatic.

The second paper of the evening was presented by Dr. A. L. Miller, of Kimball. This was a very able paper on "State Medicine".

Dr. Miller stated that this problem must be settled by ourselves; that we must become more active and come to the front and fight our own battles. He stated that in the political and industrial fields there is no limit to which a person may rise whereas in the medical field, should State Medicine prevail, there would be a limit since the initiative and individual incentive would be destroyed.

The remedy, as Dr. Miller sees it is that we ourselves must become leaders in every community, we must do away with the veil of mysticism, and make ourselves and our benefits known to the public in understandable terms. We should enter more into the politics of the city, county and school boards.

—J. B. Pankau, M. D.

The **Lincoln County Medical Society** met at the Yancey hotel, February 12, over a luncheon; following which Dr. Edward Stevenson, read a paper on "Convulsions of Infancy and Early Childhood."

The **Scottsbluff County Medical Society** met at the West Nebraska Methodist hospital, February 12, and following a chicken dinner served by the hospital, Dr. T. L. Howard, Denver, addressed the meeting on certain aspects of urology.

The **Richardson County Medical Society** met at the Hotel Weaver, Falls City, February 11. Dr. Clyde Roeder, Omaha, gave a lecture on Goiter. Dinner was served to the physicians and wives about twenty-five in all. The March meeting of the same society was held on the 5th. Dr. H. R. Miner gave a paper on "Physiological Chemistry" and Dr. C. L. Hustead spoke on baby feeding. Following the meeting refreshments were served at the Dr. S. D. Cowan home where the ladies of the auxiliary were having a social entertainment.

The **Clay County Medical Society** met at Clay Center, February 16, for the election of officers for the current year. Dr. C. F. Nutzman, Harvard, was elected president; Dr. H. V. Nuss, Sutton, vice president; Dr. J. O. Latta, Clay Center, Secretary-Treasurer; Dr. H. H. Seely, Harvard, delegate.

The **Box Butte County Medical Society** held a deferred meeting, March 3, at which time the organization was duly renewed with enough enthusiasm instilled into the proceedings to make the new year promise a good success. Twelve members were present, and the secretary stated that all members had paid their dues earlier in the year.

Election of officers took place with the result that the following men were named: Dr. John McCoy, president; Dr. L. W. Bowman, vice president; Dr. G. F. Johnston, secretary-treasurer.

It is hoped, also, to obtain the renewal of several physicians in the territory, of memberships they have held in the past. A scientific meeting is scheduled for April, at which time the councilor will be honor guest at a banquet.

HUMAN INTEREST TALES

Dr. Howard Royer has located at Scotia.

Dr. G. F. Hennegan has located in Benson.

Dr. J. E. Dunn, Arnold, has opened a hospital.

Dr. F. W. Faulk, formerly of Omaha, has located at Pierce.

A fourth operating room has been prepared at Clarkson hospital, Omaha.

Dr. V. A. Lanphier, Omaha, was reported ill in an Omaha hospital last month.

Dr. J. M. Chesshir, for some years in practice at Superior, has located at Almena, Kansas.

At Curtis, Dr. Magill has purchased the office of Dr. Jeffers who moves to Long Beach, Calif.

Dr. H. L. Mousel, formerly of Cambridge, has become associated with Dr. J. M. Willis, McCook.

Plans are being made for the North Platte Community hospital, funds for which have been pledged.

Dr. E. L. Brush, Norfolk, gave a talk before the local Parent-Teacher association on the Common Cold.

Dr. A. L. Asa, formerly of Brock, has located at Morrill. Some years ago he was located at Morrill for a time.

Dr. J. J. Bruce, Madison, has gone to New York City for postgraduate study in eye, ear, nose and throat work.

The Nu-Med society of the University of Nebraska was addressed by Dr. John S. Latta on professional school education.

The Veterans' bureau now located in Omaha will be moved to the new Veterans' hospital building at Lincoln, May 1st.

Dr. I. E. Conner, medical missionary from Sierra Leone, is in the state on furlough and is taking special work on eye surgery.

Dr. S. H. Brauer, for several years located at Hoskins, has become a factor in the Norfolk clinic in association with Dr. C. W. Sayre.

Dr. W. H. Stokes, Omaha, spoke on the "Medical Profession in India", before the Men's club of All Saints Episcopal church, recently.

Dr. F. J. Kalal, recently from Pierce and sometimes in practice at Clarkson and Clarks, has located at Creston and will conduct a hospital.

Dr. T. J. Hartford, formerly of Ohiowa, has been appointed to the medical corps of the regular army and assigned to duty at Fort Omaha.

"Pounds of Prevention" was the title of an address given by Dr. Floyd Clarke, Omaha, before the Walnut Hill Parent-Teacher's association recently.

Dr. Mary Bratt, formerly of Arapahoe, has located at Beaver City in succession to Dr. R. D. Green who has taken a position in the Veterans' hospital at Lincoln.

Dr. O. M. Moore, York, has returned from a visit to Pacific coast points. A fall from a terrace at Los Angeles resulted in injuries requiring the use of crutches, even now.

Approximately 2,300 school children of Grand Island have been given the toxin-antitoxin treatment for diphtheria. This is said to be about five-eighths of the school population.

Dr. A. M. Sonneland and family, Norfolk, have returned from some months of postgraduate work in Vienna. Dr. Sonneland will enter a clinic in the Los Angeles area in the near future.

Dr. G. E. Charlton, for fifteen years superintendent of the Norfolk State Hospital, has been transferred to the Hastings State Hospital as superintendent, succeeding Dr. J. B. Babcock, removed.

Dr. E. L. Emrich, formerly connected with the Norfolk State hospital, but more recently in institutional work in Ohio, has become connected with one of the California state hospitals, at Stockton.

Dr. J. C. Nielsen, for some time assistant superintendent of the Norfolk State Hospital, has succeeded to the superintendency of the institution and Dr. S. W. Shelton of Alabama has become one of the assistant physicians.

The free clinic for handicapped children, sponsored by the physicians of the counties in the Grand Island community, recently resulted in the examination of 107 children. And is this a part of the Great American Medical Trust?

It is stated that 963 children in Harlan county have been immunized against diphtheria during recent months and an additional 340 are in process of immunization. This showing is evidently largely due to the efforts of the county nurse.

The marriage of Dr. Kenneth C. Baker and Miss Anna C. Titus, Holdrege, is announced. The young couple have gone on a motor trip to the southwest and before returning Dr. Baker will take postgraduate work in obstetrics in New Orleans.

The Fochtman family of Cozad is in the medical limelight because John, Mary and Helen Fochtman, brother and sisters of Dr. Loyd Fochtman of Cozad, are about to graduate in medicine from Creighton University College of Medicine. Their father, the late Dr. John H. Fochtman, was in active practice at Cozad for many years.

The White House conference on child health, held the third week in February was attended, by Drs. Palmer Findley, J. Harry Murphy, C. W. M. Poynter, Omaha, and Dr. W. O. Colburn, Lincoln. A number of others, including this editor, had invitations to attend, but found it impossible to do so.

Title to the Wise Memorial hospital building has passed to the Lutheran Hospital association and the Lutheran hospital institution has been moved to the site just acquired. The present Lutheran hospital on Tenth street will be transformed into a Lutheran old folks home. The hospital will have an open staff within the membership of the Omaha-Douglas County Medical society. The Omaha Maternity hospital has also been merged with the Lutheran hospital and Dr. C. W. Pollard will head the obstetric department.

ROSTER OF OFFICERS—1931

K. S. J. Hohlen, Lincoln, President	1931
Lucien Stark, Norfolk, President-elect	1932
J. M. Willis, McCook, Vice President	1932
F. B. Young, Gering, Vice President	1932
R. B. Adams, Lincoln, Secretary-Treasurer	1933

COUNCILORS

A. P. Overgaard, Omaha, Secretary	1933
H. J. Lehnhoff, Lincoln	1933
W. R. Boyer, Pawnee City	1933
A. E. Cook, Randolph	1933
Morris Nielsen, Blair	1931
Frank Tornholm, Wahoo	1931
H. E. Potter, Fairbury	1931
W. J. Douglas, Atkinson	1931
R. D. Bryson, Callaway	1932
L. W. Rork, Hastings	1932
C. A. Selby, North Platte, Chairman	1932
A. L. Cooper, Scottsbluff	1932

DELEGATES TO THE A. M. A.

B. F. Bailey, Lincoln	1931
R. W. Fouts, Omaha	1932

DELEGATE TO COUNCIL ON MEDICAL EDUCATION OF THE A. M. A.

J. S. Welch	Lincoln

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ANNUAL MEETING PROGRAM NUMBER

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NEUROLYSIS OF THE FACIAL NERVE AFTER TEN YEARS INCLUSION WITHIN SCAR TISSUE. OPERATION, WITH RETURNING FUNCTION.

W. ANDREW BUNTEN, M. D.,*
Cheyenne, Wyoming.

Injury to the facial nerve with subsequent paralysis of the facial muscles is a condition not infrequently seen, and one which demands most careful consideration and treatment. Whether the resulting loss of function has been produced by accidental trauma or by previous operations in the region of the peripheral course of the nerve, makes very little difference as far as the advisable method of repair is concerned, provided that in each instance complete severance of the nerve has taken place. The problem of infection in traumatic wounds, of course, must be taken into consideration, and exploration and repair delayed for several weeks or months, or until such time as the presence of infected material has been definitely ruled out. The advisability of such delay is self-evident, as no repair can be carried out satisfactorily under such conditions. On the other hand, when we are dealing with nerve compression, where electrical stimulation has shown that some nerve conduction is present when applied at or central to the point of injury, verified at operation by the existence of continuity of the nerve itself, the surgical management most advisable is of a different character. The case which I will describe represents the latter type in which the use of neurolysis, or freeing of the nerve from the scar, together with the insertion of a piece of muscle tissue to prevent a recurrence of the inclusion, has given what appears thus far to be a satisfactory surgical result. Before proceeding with the case report, I have thought it profitable to take up a discussion of the literature, as well as to make a few comments on the types of operation used in the repair of injuries to the seventh nerve.

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According to Sir Charles Ballance(3), the first operation for the relief of facial palsy was performed in 1895, in which an end-to-end anastomosis was made between the facial and spinal accessory nerves. Stookey(18) states that the first operation of this type was carried out by Faure and Furet in 1898, and that the first hypoglosso-facial crossing was done by Korte in 1901. Since that time many reports of work of this nature have appeared in the literatude, cases having been reported by Cushing(5), Ballance(2), Gluck(18), Bernhardt(18), Kennedy(12), Frazer and Spiller(8–9), Grant(10), and many others. Anastomoses of the facial with different nerves within that area has been proposed, namely the spinal accessory, hypoglossal, glossopharyngeal or lingual. The nerve of choice seems to depend largely upon the personal experience and experimental results of the individual operator.

From the results of his investigations and practice, Ballance advises that "as far as one's knowledge goes at present, the conclusion seems to be that facial-glosso-pharyngeal anastomosis, end-to-end, is the operation preferred in facial palsy." In Stookey's work, entitled "Surgical and Mechanical Treatment of Peripheral Nerves", while he describes the technique in detail of both spino-facial and hypoglosso-facial nerve crossing, he does not even mention the use of the glosso-pharyngeal, and seems to favor very definitely the hypoglosso-facial union. Adson(1), Craig(4), and Learmonth(15), in their work at Rochester, Minnesota, have preferred the spino-facial anastomosis to the other forms of repair, combining with that procedure the attachment of the central end of the descendens hypoglossi to the peripheral end of the severed spinal accessory, in order to prevent atrophy of the sterno-mastoid and trapezius muscles. Grant(10) and Kummerer(14) have also advocated the spino-facial operation with the hooking up of the descendants noni with the spinal accessory, advocating also that the latter is performed to maintain the integrity of the muscles denervated by the first anastomosis. Ballance, on the other hand, feels that this is not only unnecessary, but that it is more or less contra-indicated; "that the nervous current passing through the descendens noni fails to prevent the atrophy of these muscles, and, moreover, the depressor muscles of the larynx have lost their nerve supply." While this explanation and assertion seems to have proven itself in the hands of Ballance, others feel that the loss of depressor action by denervating the laryngeal muscles is rather insignificant. According to Murphy(16), "when the hypoglossal is appropriated, the disturbance of speech and motions of the tongue are not inconsiderable, indeed, it is often very annoying to the patient and produces a marked change in expression of the speech. Both the spinal accessory and the hypoglossal are equally accessible from a technical standpoint." Again, Murphy says, "I use the spinal accessory because it gives the patient the least annoyance and inconvenience; there is but little drooping of the shoulders when the spinal accessory alone is divided." One might reiterate indefinitely the opinions of many surgeons as to the operation of choice in this connection; but, after all is said and done, we would find that there are many points for and against each procedure and that opinions are divided the world over as to just which should be the preferable anastomosis. It is also obvious that certain dangers as well as untoward results are attendant upon suture of any nerve in this area to the facial, which, it seems, is ample justification for omitting anastomosis where it is reasonably certain that compression of the nerve by scar tissue is the cause of the dysfunction.

Neurolysis, as a rational procedure, has been advocated since the early days of nerve surgery, more particularly in connection with the repair of the nerves to the extremities. This consists in the liberation of a nerve from its scar bed, and replacement between healthy muscles, or, if this is not practical, the insertion of a bit of muscle between the nerve liberated and its old point of attachment to the scar. Stookey(18) has objected to the use of muscle that has lost its blood supply, or the placing of cargyle membrane between the nerve and the scar, on the grounds that it only promotes the formation of additional cicatricial tissue. However, in my opinion, it is far better to use a piece of severed muscle properly placed, when vital muscle is not available, than to allow the nerve to rest within the area unprotected.

In reviewing the literature on neurolysis, we find that this procedure has been referred to many times, and that published results show its efficacy. Quoting from Forrester-Brown(7), out of 117 operations of neurolysis performed on patients with nerve injuries due to gun-shot wounds during the World War, in which the long nerves to the extremities were freed up, 43% showed full motor recovery and 10% full sensory recovery. Platt has mentioned that neurolysis was used in three of his patients in the treatment of certain types of causalgia; in two patients in which the median nerve was involved, there was no beneficial effect from the operation; in one case where the procedure was applied to the internal popliteal nerve, complete relief from pain is reported. Gossett(11) has stated that in all cases where compression of a nerve exists and which tends to progress and show evidence of interruption or irritation, neurolysis should be undertaken without delay; that the operation is in the nature of an exploration, and can harm neither the patient nor the nerve when carefully performed. In our case, a report of which follows, the patient was not seen until nine years had elapsed since the initial injury. For that reason, it was considered advisable by the neurologist to whom she came to carry out diagnostic tests, together with electrical stimulation and massage, in order to determine the exact condition of the nerve. Some improvement was shown during this period of observation and treatment, but not a sufficient amount to warrant its continuance further, according to the judgement of the attending neurologist. Consequently, the patient was referred to me to consider exploration, which was subsequently advised, in order to find out the position and condition of the facial nerve, as well as to carry out whatever surgical procedure seemed to be indicated after exposure had been made.

CASE REPORT

The patient, a girl of eleven years, of Jewish extraction, was referred to me on May 26, 1930, by Dr. Irwin H. Neff, of Detroit, Michigan. She presented upon admission what appeared to be a complete right facial paralysis as far as voluntary movement is concerned. The following history was obtained from the mother: The child was a full term baby of normal birth. There was nothing unusual in the progress of events until, at the age of one month, a swelling described as being about the size of a hickory nut developed below and behind the right ear. There was no fever present at any time; the child did not look sick, and there were no complaints. A local doctor was called, who applied salve to the swelling for one week, and without any effect. The parents at this time lived in the extreme eastern part of the United States. The mass was then incised, but with no particular drainage. Following this it began to increase in size very rapidly. At the age of three months the mass had assumed the proportions of a lemon, and was consequently incised again, with the same result as previously. A biopsy was taken, but no report obtained. The growth continued to enlarge, and, at the age of seven months the child was transferred to one of the larger hospitals. The mass at this time extended downward in a pendulous manner to below the level of the clavicle. After several consultations, it was considered advisable to remove the growth surgically, which was later done. The pathological report of the tissue removed was "No Cancer Found". After the operation it was noted that the movements of the right eyelid and right side of the face were impaired, and that very shortly afterward a complete loss of function of those parts was demonstrated. The mother states that advice was given to the effect that nothing should be done about it, but that, during the suceeding ten years the child would outgrow it. Consequently, the parents continued as advised. About a year ago, the family moved to Detroit, and were advised by some friends to see a doctor. They were referred to Doctor Neff, who promptly recognized the fallacy of their advice, if it was given as reported, and who instituted at once massage and electrical treatments. During the eight months or so that followed, friends stated that the face seemed to have better symmetry, and that at times they thought the face actually moved voluntarily. Doctor Neff's own observations, as reported to me, were to the effect that the reaction of degeneration of the nerve fibers had not occurred; that there was some evidence of nerve conduction by the use of the electric current; that during the course of treatment the tonus of the facial muscles had definitely improved; and, that definite, though slight, movement of the facial muscles was observed on different occasions. At this time, May 26, 1930, the patient came under my observation, and while I was able to corroborate Doctor Neff's findings as far as the life of the nerve is concerned, no voluntary movement of the facial muscles could be elicited, and there was only the slightest flicker of the right upper lid. However, on the basis of our combined examinations, I felt that it was good judgment to explore the nerve, and which I advised. Inasmuch as the child was still in school, and already ten years had elapsed since the original injury, permission was given that she continue her school work, and come in for the operation at the close of the school year. On June 26, 1930, the patient again returned to the office, and on June 30, 1930, operation was performed.

OPERATIVE TECHNIQUE AND FINDINGS

Under ether anaesthesia, an incision was made from a point 3 cm. above and posterior to the right mastoid process, downward along the anterior border of the sterno-cleido-mastoid muscle to a point below the junction of its upper and middle thirds. This incision was necessarily made through scar tissue, as three other operations had been performed in this same area. It was impossible to make an anatomical dissection for this reason. After passing through the skin and superficial fascia, both of which were quite closely adherent and one mass, the anterior border of the sterno-mastoid muscle was encountered, and, with the aid of blunt dissection, the superficial structures freed up to the inferior border of the mandible. Beneath the incision lay a mass of scar tissue, all of the structures in this region being bound closely in it. Following this, and also by blunt dissection, the region of the stylomastoid foramen was explored. At the level of the transverse process of the atlas the spinal-accessory nerve was found and identified by stimulation, as well as by pinching, with the subsequent elevation of the right shoulder. The dissection was then carried into the lower portion of the wound, and the hypoglossal nerve picked up as it loops around the occipital artery. Next, we again dissected forward in the area which is ordinarily occupied by the parotid gland in order to isolate the facial nerve. After separation through several different levels of scar tissue, we came across what appeared to be a portion of this nerve, and which passed directly into the under surface of one of the former operative scars. This was freed up for a distance of 3 cm., and distinct branches found to be passing from the peripheral end beyond the point of compression, as well as upward from the area of inclusion. Stimulation showed that this was the facial nerve, and that conduction was present. The central portion, however, descended beneath the mass of scar tissue in the depth of the upper part of the wound in the general direction of the stylomastoid foramen. We then attempted to connect the dissection at the foramen with that of the peripherally exposed part, but, after repeated attempts found that upon each manipulation of the structures attached thereto, the patient showed definite embarrassment of the pulse and respirations. It was quite evident that the phrenic nerve and the vagus were involved in the mass; therefore, the dissection was discontinued in that region. On account of the fact that we were unable to find the facial nerve severed at any point in our dissection, although it was thinned out and narrowed at the point of inclusion, and, that nerve conduction had been shown to be present, we did not consider it advisable to do either a spino-facial or hypoglosso-facial anastomosis, in spite of the fact that both nerves had previously been exposed and were easily accessible. We felt that, if necessary, we could go in at a later date and do the anastomosis if the proper result was not obtained from neurolysis alone. Consequently, a strip of muscle tissue, well compressed, and with the smooth side toward the nerve, was placed between the latter and the site of the former inclusion in the scar. The use of cargyle membrane was considered, but muscle tissue thought to be the most satisfactory. Following this, all oozing within the wound was controlled and closure made with chromic cat gut in the deeper structures and interrupted silk sutures in the skin. No drainage was used. A combination head and neck pressure bandage was applied. The patient was then returned to her room in excellent condition.

POST-OPERATIVE COURSE

Although we were rather encouraged at the time of operation as to the possible result we might obtain, we were very cautious about promising anything to the relatives. During the night following the operative work, the nurse observed that the right eye closed completely while the patient was asleep and remained so for a period of several hours. On the following day however, when I observed her there was no appreciable movement of the right eyelid on an attempt to close both eyes. The skin sutures were removed on the fifth day after operation, and the patient was dismissed from the hospital on the sixth postoperative day. Outside of the usual amount of swelling and some sloughing of the skin where the scar tissue was extremely thickened, the convalescence was uneventful.

On July tenth, ten days after operation, the patient came to the office for a dressing and the application of the first facial support. It was observed at this time that she could voluntarily move the right eyelid, although slightly, and that definite movement at the right angle of the mouth was possible. A fixed support of adhesive tape was applied to the face, extending upward over the temporal region to the vertex, in such a manner as to elevate and maintain the right side of the face in a position quite symmetrical with the opposite side. On July seventeenth the wound was dressed again and the mechanical support to the face replaced. With the support off, the patient was able to retract the right angle of the mouth very appreciably, and to hold the face in that position for several seconds. We did not ask her to hold that position longer, as we did not wish to prolong the thing to the extent of fatigue. It was observed that the retraction of the mouth was more lateralward than upward, which we attributed largely to the fact that the face had been held in the deformed position for so long a period that it was impossible for the newly functioning apparatus to immediately overcome such resistance. It was also possible at this time to close the right eyelid about half way. Instructions were given at this time for voluntary practice movements daily, at the same time being cautioned to stop short of fatigue of the muscles. On July twenty-first the patient was seen again, and the single adhesive support supplanted by a "Y" shaped one, the wings of the "Y" being separated about 3 cm. at their tip in order to include more surface of the lower part of the face. It was considered best to still maintain the fixed support, without elasticity. On July thirtieth, the patient again returned for observation and dressing. At this time it was noted that facial symmetry had improved somewhat over the previous observation, and that still more movement was present in the right face and eyelid. The wound was entirely closed. The adhesive support was removed; gentle but firm muscular massage given to the face, and the support re-applied. Instructions were then given for the patient to return to Doctor Neff for further massage and electrical stimulation to the face, with the continued use of the facial support, and to come to my office again for observation at the expiration of a month.

On September first, the patient again came to the office for observation, and, during the month that had elapsed definite improvement was noted over what was observed at the last examination. On October third she returned once more, and again on November eighth. On December twelfth, nineteen hundred thirty, the last examination was made, and the findings were as follows: It was possible for the patient to voluntarily close the right eye almost completely; the excursions of the right face had improved gradually until, when attempting to laugh, facial symmetry was quite normal; voluntary power of the facial muscles had returned to such an extent that the patient and her relatives declared they would be satisfied with the result of the operation if no further gain was made.

COMMENT

It is evident from the result obtained thus far, that, as we suspected at operation, the main problem with which we were dealing was one of nerve compression with diminution of conductivity from mechanical means. As Stookey(18) has said, "the return has been too rapid to admit of re-establishment of function on the basis of nerve regeneration," and "when such rapid return of function occurs it is probable that the nerve fiber is intact anatomically, and that only its power of conductivity has been inhibited by pressure exerted upon the nerve fiber itself." While degeneration of some fibers may have actually taken place, it has been quite well established that some stimuli are capable of being transmitted from the brain to the periphery of the nerve. The same condition is also seen when nerve conduction is inhibited by other means, such as cold, when no demonstrable anatomical changes are present. and conductivity is re-established when the nerve trunk is warmed, thus showing that propogation of stimuli along the nerve trunk may be abolished without anatomical interruption. I believe that it is quite remarkable that restoration of function came about so soon after liberation of the nerve from the scar, when it had been bound down for a period of ten years. Although a complete study of the literature has not been made, I am unable to find from data at hand the report of a case of neurolysis of the facial nerve where conduction has been absent over such a long period. Also, while our result is not as yet complete, we have every reason to believe that we will succeed in returning permanent facial symmetry, and that, in all probability, quite normal excursions of the facial muscles will eventually be obtained.

SUMMARY

1. The report of a case has been presented in which neurolysis of the facial nerve was carried out after ten years inclusion of the nerve within scar tissue.

2. On account of the fact that closure of the eye occurred within the first twenty-four hours after liberation of the nerve, with subsequent return of voluntary movement to the facial muscles, it is quite evident that the cessation of function was largely brought about by mechanical pressure.

3. While the postoperative result thus far in this case is very encouraging, it is extremely advisable that mechanical support be given to the face both before and after operations of this sort; that mild massage be given at regular intervals to the facial muscles; that electric stimulation be applied frequently, but not to the point of fatigue of the muscles; and that the patient be educated to perform voluntary practice movements while the treatment is in progress.

BIBLIOGRAPHY

1. Adson, A. W., Rochester, Minnesota. Personal communication.

2. Ballance, C. A.: Case of facial palsy following a mastoid operation, treated by nerve anastomosis. Proc. Roy. Soc. Med., 1913-1914, vii, Clin. Sect., 33.

3. Balance, Sir Charles: Results obtained in some experiments in which the facial and recurrent laryngeal nerves were anastomosed with other nerves. Brit. Med. J., Aug. 30, 1924, pp. 349-354.

4. Craig, W. McK., Rochester, Minnesota. Personal communication.

5. Cushing, H.: The surgical treatment of facial paralysis by nerve anastomosis. Report of a case. Ann. Surg., 1903, xxxvii, 641.

6. Faure and Furet. Quoted by Stookey.

7. Forrester-Brown. Quoted by Platt and Bristow.

8. Frazer, C. H., and Spiller, W. G.: The surgical treatment of facial paralysis. University Penn. Med. Bull. Nov., 1903.

9. Frazer, C. H.: Surgery of the head and neck; the facial nerve. Progr. Med. March, 1914, p. 42.

10. Grant, W. W.: Traumatic facial paralysis; anastomosis of the facial nerve to the spinal accessory, and the peripheral end of the accessary to the descendens hypoglossi. J. A. M. A., 1910, lv, 1438.

11. Gossett, Paris. Quoted by Platt and Bristow in the summary of discussion.

12. Kennedy, R.: Erperiments on the restoration of paralyzed muscles by means of nerve anastomosis, Part 1, substitutes for the facial nerve. Phil. tr. Roy. Soc. London, 1911, Series B, ccii, 93-163.

13. Korte. Quoted by Stookey.

14. Kummerer. Quoted by Ballance.

15. Learmonth, J. R., Rochester, Minnesota. Personal communication.

16. Murphy, John B.: Indications for, the technic of and results in surgery of the peripheral nerves. Ill. Med. J., Oct. 1907, xii, 332-341.

17. Platt, Harry, and Bristow, W. Rowley: The remote results of operations for injuries of the peripheral nerves. Brit. J. Surg., Jan. 1924, xi, 535-567.

18. Stookey, Byron: The mechanical and surgical treatment of peripheral nerves. Saunders, Philadelphia, 1922.

BREECH LABOR*

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I wish to present for your consideration a discussion of breech labor. It is a subject worthy of our best attention. It is a recognized fact that breech presentations offer a very unfavorable prognosis for the baby. The infant mortality and morbidity in breech labor continues high enough to command this serious attention on the part of all physicians practicing obstetrics. It is no doubt needless to quote statistics or report the opinions of the masters of obstetrics as to the mortality of breech labor or the type of injuries common to breech labor. However, I believe it is worth while to repeat and consider some of the more important points; in a way, hold a postmortem on our methods and see if there is not a way to improve the technic and lower this terrific toll of life.

Statistics from various sources give the fetal mortality rate at various figures. ranging from 6 to 20 per cent or even 30 per cent in hospital practice and as high as 50 per cent in rural practice. According to DeLee, in hospital practice it is between 6 and 15 per cent. He states that with proper care it should not be over 5 per cent, in uncomplicated cases. Williams places it between 10 and 15 per cent in primipara and with a lower rate in multipara. Kind and Gladden report figures from the Charity Hospital at New Orleans showing greater mortality rate in multipara, which they consider is probably due to the increased weight of the dead baby born of the multipara.

Many factors are involved in breech labor, which make them more dangerous to the fetus than vertex presentation. Very important is the relationship between the size of the baby's head and the size of the pelvis. It is difficult to draw the line. In breech labor it is impossible to use the many methods available in vertex presentation. and the only method of prognostication is an estimation of the size of the baby's head and the careful measurement of the pelvis. Only the latter is at all accurate. This means that regardless of the progress of labor or the skill and gentleness of the extraction, a certain proportion of babies are lost as a result of the mechanical difficulties in delivering the aftercoming head which has had no opportunity to become moulded into the pelvis through which it must be extracted. Breech presentation because of the relative lack of accommodation of the breech to the birth canal, favors premature rupture of the membranes and does not give a mechanically sufficient dilatation of the os. The result is a long and tedious first stage of labor and in many instances a delay of the onset of labor for sometime after the rupture of the membranes, which in itself also increases the possibility of uterine infection. Compression of the cord is likewise another dangerous aspect of breech presentation and may be regarded as an accident more or less characteristic of breech labor, regardless of whether there is a prolapse or not. This danger is present from the onset of labor to its complete solution.

A danger present in the second stage is the tendency of the uterus to empty itself of the greater bulk of its contents; namely, the legs, breech, trunk, and arms, shortly after full dilatation has occurred. As a result of this sudden shutting down of the uterus on the relatively small contents (the head) it may cause a rapid and complete separation of the placenta with resulting speedy asphyxiation of the infant unless the accident is met with immediate extraction, which in itself is very dangerous to the infant, as I will attempt to show.

For years it has been the accepted maxim that asphyxia will result if there is delay between the delivery of the umbilicus and the aftercoming head. Eight minutes has been arbitrarily laid down as the limit of time. I believe that this has been the cause of many an infant's death. I remember well two breech cases I assisted with as a resident interne at the Chicago Lying-In-Hospital. Both were delivered the same afternoon. Conditions were very similar. One was delivered by a bright young obstetrician who should have known better. He delivered the head in less than three minutes after the delivery of the umbilicus. He felt very elated over his immediate results. However, in six hours I was called to the nursery to see the baby with the typical symptoms of an intracranial hemorrhage. This baby died in spite of good therapy. Postmortem revealed a laceration of the dural septi with resulting intracranial hemorrhage.

The other case was a larger baby, delivered by an older man, whose experience was great and whose counsel was good. He took nearly 15 minutes to deliver the aftercoming head. He was gentle and deliberate in his extraction. This baby lived and was normal in all respects at twelve hours and continued to be so.

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Potter, as is well known, estimates the limit of safety to 15 or more minutes. Holland feels that the fetus is not any worse for 15 or 20 minutes and he states that it is now a matter of general knowledge that many of the fetal deaths occurring during or shortly after breech delivery are due to birth injury and not to anoxemia, and that tears of the tentorium and cerebral hemorrhage are almost constantly found in dead babies delivered by the breech.

Pierson, in his review of autopsies performed on viable babies dying during or after breech delivery, found spinal cord hemorrhage in 47% of the cases. In 5% partial or complete rupture of the spinal cord. In 38%, one or more fractured vertebrae were found, and in 25% cerebral hemorrhage varying in degree from moderate to severe. And he quotes Brown as stating that cerebral hemorrhage is ten times more likely to occur in breech delivery than in vertex delivery and that hemorrhage into the adrenals is 22 times more frequent in the breech delivery.

The management of the delivery is generally considered to be responsible for these birth injuries rather than the presentation itself, and many feel that rigid adherence to the eight minute rule with hasty and unskilled manipulations not infrequently leads to fetal death. Pierson states that two errors in judgment stand out in the series reported by him; (1) frantic haste rather than deliberate skill; (2) misjudgment of the pelvis. He also stresses two errors in technic; (1) failure during delivery to accommodate the long axis of the child to the pelvis axis, thereby causing dangerous angulation; (2) failure to accommodate the long diameters of the body, shoulders and head to the long diameters of the pelvis, resulting in too much traction and in undue suprapubic pressure.

Holland lays great emphasis on the value of episiotomy as a means of saving the fetal head from excessive stress. A preliminary "ironing out" of the vagina is essential to a happy outcome.

I feel that a better understanding of the mechanism of intracranial hemorrhage is essential if one is to conduct breech labor more satisfactorily. We are all acquainted with the fact that the vital vasomotor and respiratory centers are in the medulla and upper cord. These are fully developed at birth and are the only parts of the central nervous system needed at birth. The cerebellar and cerebral hemispheres are undeveloped at birth and seemingly withstand greater trauma and anoxemia than the cells of the fully developed cortical tissue. The spinal cord below the phrenic nucleus is likewise immature and not essential to immediate life. Therefore, it is evident that whether a baby is living or dead at birth is dependent on a block of nervous tissue lying between the tentorium and the third or fourth cervical spinal segments. This block of tissue is well protected by the heavy rigid base of the fetal skull and the muscles of the neck. The bones above the base are soft, easily moulded, and caused to override, the parietal bones usually overriding both the frontals and the occiputal bones. Therefore, moulding occurs above the base. The dural septums are extremely important structures. The tentorium arises along the edges of the base of the skull and to that extent are fixed, but its fibres join in the saggital line to form the falx cerebra which acts as a ridge pole. The fibres of the falx except at the extreme anterior portion arise from the flexable vault to sweep back to its insertion into the tentorium. The distortion of the vertex through the ordinary moulding in the normal vertex position does not generally effect the rigidity of the tentorium. Thus the cortex stands the pressure and the dural septi prevent the pressure being transmitted to the vital area of the medulla. However, in conditions where very sudden pressure is applied to the vertex the fibres do not stand the strain and tear, thereby allowing this pressure to be transmitted to the medulla and increased by herniation of the medulla into the foramen magnum, due to lack of support. The tearing of the falx and particularly the tentorium causes further increase of pressure due to accumulation of blood from bleeding in and about these vital areas below the tentorium. As long as the tentorium and falx are intact, so long is the medulla uninjured. Compression of the elastic skull in one direction, in general, causes compensatory elongation of the diameter in another direction. This puts a strain on the dural folds which if too sudden and unequally applied is too severe for their integrity especially along the edges of the tentorium. Suction due to negative pressure after dilatation and especially after rupture of the bag of waters causes meningeal and brain tissue hemorrhages. Long delay in expulsion of the head is marked by hypernemia of certain parts of the brain with concomitant anoxemia of other parts. Sudden overlapping of adjoining cranial bones will lead to laceration of the underlying sinuses due to their engorgement.

The nuchal arm and the difficulty in birth of the aftercoming head are accidents while peculiar to breech labor or version with extraction are due to faults in the technic of decomposition and extraction, and their avoidance is a matter of perfection of this technic. But even so, very little can be offered in solution of the last named accident—arrested aftercoming head—which requires such close judgment as to the decision prior to labor whether a given head will go through a given pelvis. Even so, I feel that there is small excuse for prophylactic external version because of the infrequency of its success and particularly because of the danger of premature separation of the placenta and faulty attitudes which it frequently may produce. Better would it be for us to train ourselves and to become more capable in the management of breech labors.

It appears, then, that some revision in the technic employed in the management of breech delivery is indicated, and it is of this with which I wish to deal chiefly.

The first point to consider is the preparation for the extraction. The patient, if delivered in the home, should be delivered upon a table, such as a kitchen table, whenever it is possible. Otherwise, if on a bed, then across the bed with the legs in the Walcher position, as this increases the measurements of the pelvic inlet and decreases the tension of the perineum.

Next, sufficient help should be present to give assistance if it be needed, and one of these assistants should keep slight pressure constantly upon the fundus to maintain the flexed attitude of the fetal head.

Next, the patient should be completely anesthetized, for one must realize that in an extraction one is drawing a fetal cone through the birth canal with the apex and the smallest diameters first, in contradistinction to the vertex presentation where the large diameters come through first. For the same reason, it is essential that dilatation of the cervix be complete and that it be completely relaxed to prevent its contraction over the neck before the aftercoming head.

The next preparatory step before beginning the extraction is the dilatation and the ironing out of the perineum. This technic for extraction which follows is nothing new or peculiar to myself but has been advocated by Potter of Buffalo, Piper of Philadelphia, DeLee of Chicago, and others. I believe it is the best method at hand and it will produce good results. Further, I believe that if we will always do, as Dr. DeLee used to advise us to do, "Do it with your fingers in the air before you do it in the birth canal", that it will help. Don't attempt to deliver too rapidly. Both feet should always be brought to the vulva. Thus the breech is converted to a double-footing. The feet are now grasped with a sterile towel and a traction is applied slowly and steadily and chiefly on the posterior foot, as this aids in bringing the buttocks of the baby into the hollow of the sacrum. This is a contribution of Potter's and is probably a correct interpretation of the mechanism of double-footing labor. It insures a greater safety of the supports of the maternal bladder because of the opposition of soft parts. This does not mean bringing the buttocks to the vulva, for if the fetal head is brought down this far with the back posterior without the attempting of the next maneuver the shoulders are too far down and will not rotate anterior with the production of nuchal arm. Only the knees show at the vulva. One should feel that if there is any resistance to anterior rotation or further traction at this point that the fetal body has been pulled down too far and it should be pushed back up; and having again disengaged the shoulders and arm above the pelvic rim, rotate the trunk completely forward before reinstituting traction. Next the operator grasps the feet separately with the hands, the latter being closed and completely rotates the fetus, bringing the buttocks out under the symphysis before applying traction. Having the back well anterior, traction is now applied without changing grasp on the child's ankles, until the points of the scapula appear in the vulva. The arms are then delivered out by hooking the fingers under the axillary border of the scapula and drawing the latter up toward the symphysis. However, one may apply the fingers over the anterior surface of the humerus, delivering the arms in such a manner that the hand passes over the baby's chest and abdomen. The left shoulder and arm are delivered first, in order to draw the head into the pelvis in the right oblique. The deliberate choice of the right oblique diameter for the aftercoming head is based on the belief that this diameter accommodates the head more readily.

Next, the left hand is inserted into the vagina and the first two fingers placed in the baby's mouth.

Wigand's method for manual delivery of the aftercoming head, namely pressure above the symphysis pubis by an assistant, with the baby's body extended and held high, is employed. This method aims to avoid too great a degree of traction on the neck. Even in this there is danger of inflicting tentorial lacerations from too vigorous suprapubic pressure or of impacting the head in the anteroposterior diameter of the superior strait in ones anxiety to effect rapid delivery. Traction over the fetal shoulders should not, in my belief, be employed as it is very prone to produce lesions of the medulla and cervical region of the spine. With this in mind it is well to make one rather gentle effort to deliver the head with the Wigand method and with failure, one should pass at once to the use of forceps.

The use of forceps on the aftercoming head is not new and it has many points in its favor: (1) The prompt use of forceps will save many infants heretofore lost by too long persistence in efforts to deliver by the standard manual methods. (2) The use of forceps places in the operator's hands alone the rate with which the fetal head is drawn through the birth canal. (3) It does away with the use of traction on the fetal neck.

DeLee says, "My practice for years has been to apply forceps to the aftercoming head if it does not quickly follow moderate traction. I am convinced that many children will be saved, that fracture of the clavicle, hematoma of the sternomastoid, dislocation of the vertebra, Erb's paralysis, and many tissue injuries could be avoided if the application of the forceps were taught in schools and more generally used".

The ordinary type of obstetrical forceps may be used on the aftercoming head. However, Piper has devised an especially designed instrument which has the following features: (1) The blade has a somewhat flattened pelvic curve, for high application. (2) A lengthened shank which permits an unusual degree of spring between the blades and thus prevents compression of the head. (3) Depressed handles have a greater ease of application and manipulation in the presence of the delivered fetal body. The technic of application requires aiming of the blades directly at their intended positions on the side of the head without rotation and from below. An assistant meanwhile holds the child's arms and legs, maintaining the trunk at not too great an angle of extension on the neck. Whether the forceps are absolutely required for extraction of the head or just applied as an elective maneuver, the chief funtions of the instrument is that of flexion and not traction. In addition, it serves to control the exit of the brow across the perineal edge, protecting the latter from the lacerations that sometimes accur as the head jumps out in this final act of birth.

Drs. Piper and Backman designed their special forceps for the delivery of the aftercoming head because of the newer information concerning the bad effect of traction on the neck or excessive compression or congestion. Their forceps tend to obviate the evident risk of forced traction on the vertebral column. Traction with these forceps should be persistently made downward and backward because final raising of the hands, as practiced with the usual forceps, would in the aftercoming head cause the occipital bone to be placed against the symphysis and thus endanger the tentorium and cerebellum. One should keep in mind that any excessive or rapid manipulation in the aftercoming technic is dangerous and that one should keep in mind the dangers of excessive force whether applied in rotatraction or flexion.

In conclusion, I have only one maxim to leave to you. Don't be in a hurry. Know the position of the fetus. Practice with your hands in the air first what you want to do in the pelvis, and then do it.

CASE STUDIES IN GOITRE, NO. VI—THE ACUTE HYPERPLASTIC GOITRE*

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This type of goitre occurs in childhood, adolescence, or early adult life. It occurs more frequently in females than males and usually the first symptoms are those characteristic of nervous irritability. The patient becomes irritable and emotionally erratic with marked and sudden changes between phases of exaltation and depression. These symptoms are accompanied by equally rapid changes in the vasomotor apparatus, the patient flushing or growing pale abnormally under very slight provocation.

After a variable period of time the symptoms pathognomonic of the condition appear. Voracious appetite with a coincident loss of weight is apt to be the first symptom. This is due to the fact that there is present a tremendous katabolic drive going on in the entire body and the metabolic rate rises. In order to keep pace with this rapid drain on the body the organism endeavors to obtain more fuel and does this by demanding it through an increased desire for food. This is not sufficient to meet the demands and consequently loss of weight occurs even in the face of the increased intake. Exophthalmos develops soon after the increased appetite and is most frequently of the "pop eye" type. The eye balls appear to be too large for their sockets and seem to bulge forward. The palpebral fissure is widened and the sclera can be seen above the iris. With this there is a failure of the upper lid to follow the movement of the eyeball downward and a quick upshoot of the upper lid when the patient raises the eye and looks upward gradually. Physical examination discloses a rapid heart beat, the eye signs enumerated above, a fine tremor of the hands and the laboratory gives the confirmatory signs of decreased relative polymorphonuclear leucocytosis with a normal total count, usually diminished or absent free hydrochloric acid in stomach contents: and a high basal metabolic rate.

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The disease occurs in phases of increased symptomatology, then a steady course which is followed by a gradual recession of symptoms, but the patient never returns to normal. After a variable period of quiescence a new phase occurs and at its close leaves the patient in a still worse condition until finally the heart becomes irregular—myocardial changes supervene and the heart is permanently damaged. At any time during any of the periods of hyperthyroidism a thyroid crises may occur, the patient becomes delirious, the heart gives out rapidly and death occurs. Fortunately the symptoms are now so easily recognizable that this occurs only infrequently.

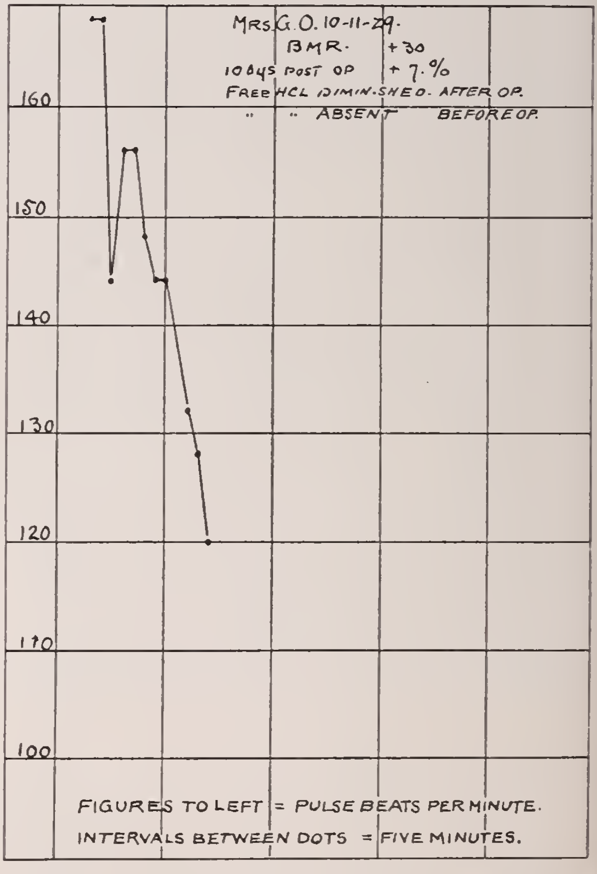
It is my belief that in these cases early removal of the major portion of the thyroid gland is indicated. This should be done only during the stage of recession of the hyperthyroidism and this recession can be brought about by rest in bed; high caloric feeding with the administration of dilute hydrochloric acid if the free acid is low; excess fluid intake (it is my practice to make these patients take a glass of water, ounces VI, every hour); and the administration of iodine in the form of Lugol's solution; on the average fifteen drops, three times a day, is sufficient.

Under such a regime the patient begins to improve. The pulse rate slows, the metabolic rate drops and the weight increases. This occurs in from a week to ten days and when these results are achieved operation should be performed at once. It is an interesting observation that if at the end of such a period the patient is considered improved and allowed to return to the usual routine of life a recurrence will almost invariably occur and a repetition of the regime will not bring this individual back to nearly as normal condition as was obtained by the primary period of treatment.

CASE RECORD: The patient Mrs. G. O., aged 24 years, married, was admitted to the University Hospital October 3, 1929, giving the following history:

Present Complaints: 1. Sense of fullness in eyes; 2. Extreme nervousness with continuous tremor; 3. Voracious appetite; 4. Loss of weight.

Onset and Development: Three years ago first noticed that she had trouble in controlling movements of her hands; but this cleared up and shortly afterwards she had visionary disturbances. About two years ago she noticed she was nervous and very restless, could not sleep very well at night. This symptom has been getting gradually worse. During the last eighteen months she had wondered at the phenomenon of an extensive appetite with which she seemed to be losing weight. During the last six months the tremor of her hands has returned and she sought the advice of a physician four months ago who suggested that she take iodine by mouth which she has been doing, but has not noticed any lasting improvements.



Childhood Diseases: Measles, mumps, chicken pox and whooping cough.

Other Diseases: Influenza in 1924.

Injuries and Operations: Tonsillectomy.

Eyes: Has worn glasses for the past three years. Ears: Slightly deaf for the past three years. Nose and throat: Has had frequent attacks of tonsilitis up to four years ago, at which time tonsils were removed. Respiratory: No complaints. Cardiac: Is conscious of a fast beating heart. Abdomen: No complaints. Genito-urinary: Menses have been irregular and painful since child was born two years ago. It is interesting to note that the onset of the present symptoms occurred with the onset of her pregnancy nearly three years ago and it is worthy of note to observe that in the majority of these cases there is some occurrence which puts an extra strain upon the body and with this extra strain the symptoms of the disease begin. Habits and weight: About twenty-six pounds loss of weight during the past three years. Neuro-muscular: No complaints except the tremor and inability to hold things securely with her hands. Family history: Negative so far as the present condition is concerned.

Physical Examination: Shows a young girl approximately twenty years of age lying in bed and appearing rather nervous. While talking to her she moves around in bed considerably and seems quite fidgety. An outstanding impression is the marked exophthalmos. There is a bilateral enlargement of the thyroid gland which however is not marked. No masses are felt in the thyroid. A slight evidence of bruit can be heard in the region of the superior pole. The size and shape of the head and neck are normal, the hair is rather dry and quite stringy. The scalp is normal. The neck is described above and especially there is to be noticed an enlargement of the anterior and posterior cervical lymph nodes. Eyes and ears: Marked exophthalmos. Pupils somewhat dilated. The wideness of the palpebral fissure is marked by regulating the light. There is poor convergence of the eyes. No strabismus. On the upper portion of the left eyelid there can be seen a small abrasion that is healing by first contention. Ears: Hearing is impaired slightly in both ears. Chest: Excursion of lips and diaphragm seen with the respiration. Breath sounds are normal, no rales or areas of dulness found. Heart: Apex beat in the midclavicular line in the fourth interspace. The left border of heart within normal limit. Marked tachycardia, rate 124, regular. No evidence of murmurs or thrills. Aortic second and pulmonary second slightly accentuated. Blood pressure 132/88. Abdomen: Liver and spleen are not palpable. Striae gravidarum are present. There are evidences of tenderness. Extremities: No deformities. There is slight tremor in the hands. Reflexes are present. Lower extremities are negative. Diagnosis: Exophthalmic goitre.

The following laboratory reports were noted. The urine is straw colored, specific gravity 1032; reaction acid. No albumin, no sugar, no acetone. The blood count showed 84% hemoglobin, 4,130,000 red cells; 12,400 leucocytes. It will be noted that in this case the leucocyte count is a little high. The polymorphonuclear leucocytes were 55%; the lymphocytes were 42%, and eosinophiles 3%. On the 19th of October, 1929, a fractional gastric analysis showed no hydrochloric acid in any examination. The total acid was at 30 minutes 8; 45 minutes 15; 60 minutes 11; 1 and a quarter hours 22; 1 and a half hours 10. On the 20th of October, 1929 the Rehfuss examination showed free hydrochloric acid present. First examination none; second none; third 3%; fourth 3%; fifth 5%; sixth 5%. Total acid—one, 5%; second 8%; third 6%; fourth 12%; fifth 24%; sixth 24%. This second examination is interesting in that it shows that nine days following her operation free hydrochloric acid was found in the stomach contents whereas before operation there was no free hydrochloric acid present. On the 4th of October, 1929, the basal metabolic rate was plus 29% on the first examination and plus 30% on the second examination and the notation is made that the pulse was 105, respirations 19, temperature 98.5° and the test was satisfactory. The test was not repeated before operation as the patient's course appeared to be satisfactory and a second test was done on October 21, 1929, ten days following the operation, and showed as a result plus 4% at the first examination and plus 7% at the second with the notation that the test was satisfactory. Upon admission the patient's weight was 125 pounds, the temperature and respirations were approximately normal but the pulse varied from 100 to 120. With forced feedings and rest in bed the pulse gradually came down to about 100 and became more steady and on the 9th day of October, six days after entrance, the weight was 131 pounds —a gain of six pounds. During this period her fluid intake varied from 3600 to 4700 cc. per day and her output varied from 1400 to 2700 cc. per day.

At the end of seven days in the Hospital she was considered in a proper condition for operation and on October 11 a subtotal thyroidectomy, removing about five-sixths of the gland, was performed under cervical paravertebral anaesthesia with 1% Novocain. The thyroid was found to be evenly enlarged, in feel somewhat meaty but the enlargement is only about one-eighth more than that of the normal gland. The operation was performed without untoward incident and the post-operative recovery was without complication. The highest temperature following operation was 102.6° and the temperature became normal on the third post-operative day. The highest pulse rate following operation was 146 and it came down gradually in the week following operation until at the time of her discharge on October 22, 1929, the pulse rate was about 90 beats to the minute. During the operation this patient demonstrated very definitely the effect exerted by cervical paravertebral anaesthesia upon the slowing of the pulse and the chart is reproduced which shows the rate of the pulse taken every five minutes during the course of the operation and reveals that the pulse which, at the beginning was 168 per minute at the close of the operation had diminished to 120 per minute. The pathological report upon examination of the gland furnished by Drs. Eggers and Weinberg, is as follows:

Pathology #s-29-328. Gross: The thyroid was submitted in the form of three separate lobes, all somewhat smaller than normal. The lateral lobes all measured 4 cm. in length by 1½ cm. The cut surface showed no abnormalities.

Microscopic: The thyroid alveoli were practically without exception much smaller than normal and were very closely packed together. Most of them were lined with flat epithelium, but one or two were found in which the epithelium was of columnar type and projected into the lumen in the form of enfolding tubercula.

Diagnosis: Adenoma of the thyroid, probably exophthalmic type.

It is interesting to note that while in this patient all of the clinical symptoms point to a hyperplasia of the thyroid gland nevertheless the microscopical diagnosis made by the pathologist was that of adenoma of the thyroid and upon the fact that a few of the acini showed enfolding into the lumina of the alevoli he based a diagnosis of exophthalmic type of the gland.

The patient was discharged from the hospital on the 11th day following the operation after she had been up and around the ward for two or three days with practically no symptoms. The wound was not entirely healed and there were a few small collections of serum under the epithelium but her family physician took care of those. The first follow-up note was furnished by her physician on October 28, 1929:

"The local examination showed the incision completely closed with the scar slightly indurated and puffy as though there was a small amount of serum beneath that might be easily drained. Exophthalmia is less pronounced. The patient's temperature was normal and the heart rate was 80, she was feeling fine and said her nervous irritation was much better and she was eating and sleeping well."

(Signed) F. M. Swartwood, M. D.

A second follow-up note from her physician dated November 24, 1929, states:

"The scar is contracting nicely and redness is almost gone. No enlargement of the thyroid is noticed. Pulse rate is a little increased but examination was made before sufficient time had been given to allow it to drop to its normal rest level. Patient is feeling fine and gaining in weight much to her annoyance. It is the first opportunity to give her Lugol's solution."

(Signed) Francis M. Swartwood, M. D.

At the follow-up clinic at the University in November her weight was 128¾ pounds. In December her weight was reported as 132½ pounds and that the patient was in good condition.

SUMMARY

The above shows the usual course of a case of acute hyperthyroidism seen soon after the onset of severe symptoms brought into a state of recession by preoperative treatment and operated upon at the time of election. Though no note is present on the chart it is my impression that this patient has passed through a normal pregnancy and childbirth since her operation.

THE GALLBLADDER*

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So much is being written on the gallbladder that it might seem that there is already a superfluity of literature on this subject. But an organ that is found diseased in 66% of bodies coming to autopsy. can scarcely be the object of too much study by the medical profession. Graham states that gallbladder disease seems to be increasing. Though this may be an apparent increase rather than an actual one, it cannot be denied that its recognition as a cause of ill health is on the increase. The Statistical Bulletin of the Metropolitan Life Insurance Co., for September, 1930, says: "In spite of marked progress, in recent years, in the study and surgical treatment of gallstone disease, there has been, apparently, no improvement in the mortality from this condition. In fact, among males, a slight upward tendency in the death rate has been observed after age 45."

These facts constitute a challenge to the medical profession. There should be constant, intensive study given to a problem of such importance, that resists solution to such a degree.

The ill effects of gallbladder disease extend beyond the organ itself. When infected it becomes a focus from which may arise the many disturbances now attributed to such centers. Some of the digestive disturbances associated with gallbladder disease may be from the effect of this focus. There is reason to believe that infections of the gallbladder may be a factor in the cause of duodenal ulcer. Arterial hypertension and arterio-sclerosis, with all their attending and resulting ills, may frequently be charged primarily against a diseased gallbladder. Arthritis, neuritis and myositis may frequently have the same cause. It has seemed to me that the heart muscle is especially susceptible to the effect of gallbladder infection. A very large part of the elderly people with serious gallbladder disease of long standing, have poor heart action and are frequently bad surgical risks because of the heart.

The study of gallbladder disease is therefore of even more importance than gallbladder statistics indicate.

The gallbladder seems to have been an after thought in the development of the embryo. In the third week of foetal life two groups of cells form on the ventral portion of the upper duodenum. These are the beginning of the right and left lobes of the liver. At first, each of these lobes has its own duct emptying into the duodenum, but later the wall of the gut is drawn out into tubular form making the common duct, into which both ducts of the liver empty. In the second foetal month the rudimentary common duct pouches on one side to start a diverticulum which later becomes the gallbladder and cystic duct. This appears to be just another method by which the capacity of the duct and the area of its mucus membrane may be increased. Animals that have no gallbladder. seem to get satisfactory service from a proportionately large duct. The gallbladder arrangement is an excellent one when the apparatus is in good working order, but the mechanism is more easily deranged and much more capable of making trouble than is the other without a gallbladder.

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*Read before the Hall County Medical Society, November 29, 1930.

The frequency with which gallbladder disease occurs, attests the susceptibility of the organ to infections. Whether this is due to relative inactivity of the organ, to stagnation of contents in a pouch with one small opening through which they come and go, or to proximity of infection has not been determined. It has been determined, apparently, that the gallbladder mucus membrane is capable of protecting itself from bacteria, and though living organisms are present in the bile excreted from the liver, these are not the ones that enter the walls of the gallbladder and cause its trouble. Along with this is proven the improbability of organisms entering the duct from the duodenum and traveling upward through the ducts to the interior of the gallbladder to produce infections in its walls. This leaves as possible modes of infection blood stream, lymphatic channels and direct extension .

Rosenau conceived the idea that certain hungry bacteria living in foci of infection have a voracious appetite for gallbladder cells. Not having the opportunity to indulge their terrible craving, they embark in the blood stream on a voyage of exploration. After an adventurous trip through the wilderness of unattractive organs, the few that find their way into the cystic artery recognize this as the happy hunting ground and hastily debark to begin their work of destruction. It seems probable that some gallbladder infections may be embolic in origin.

A more probable source of infection in the greater number of cases, appears to be through lymphatic channels. There is an abundant supply of lymphatics in the gallbladder, and these vessels are closely associated with those of the liver. Kodama showed that injections of dye in certain parts of the gallbladder were carried by lymphatics to the first part of the duodenum. If the dye was injected in the first part of the duodenum it was carried to the gallbladder. It has been shown, too, that dye will travel from liver to gallbladder and from gallbladder to liver.

The liver is the great eliminator of bacteria and toxins from the body. Prof. Mueller said "During a chill we injected high amounts of bacterium coli into the circulation. After the chill all the bacteria disappeared from the blood and reappeared in the bile." "We have seen that the liver keeps the bacteria for even seventeen days and longer in a living state in its tissues." So we have two sources from which gallbladder infection may occur through lymphatic channels: Liver and duodenum, and, apparently, a route by which they may travel directly from either of these into subserous tissues of the gallbladder walls. Other abdominal organs are connected more indirectly through lymphatic channels running to the region of the portal vein.

Much has been said recently of the function of the gallbladder. Those who oppose removal of the organ are inclined to give these functions an important place in their arguments against cholecystectomy. Very briefly the functions are given by Evarts Graham as follows:

1. Storage of bile.
2. Concentration of bile.
3. The ability to empty itself.
4. A possible important role in the production cholesterol.
5. The possible production of substances which are important in the metabolism of the liver.

The some author says: "Even now, however, the known functions are few. and they would seem to be relatively unimportant."

It is not my intention to enter into an extended description of gallbladder pathology which would necessarily be copied largely from text books. A consideration of some features of the pathology, however, is essential. Bacteria may be present in the bile in a perfectly normal gallbladder. Conversely, sterile bile may be contained in a diseased gallbladder. The infection is in the gallbladder walls which, in acute cholecystitis, become thickened and oedematous, the mucous membrane becoming reddened and congested. Continuation of the inflammation brings about an increase in fibrous tissue. This means a permanent thickening of the walls and a loss of elasticity. The greatest activity of this process is said to be in the subserous layer. The process may settle down to a chronic one of slow progress or it may go on, of course, to gangrenous walls; or, when the duct is closed by stone, may develop empyema.

What are the effects of this process on gallbladder function? Absorptive powers are diminished. If absorption cannot be carried on well, concentration of bile is interfered with. If the bile cannot be concentrated, the limited capacity of the gallbladder will provide very little storage. If the gallbladder produces cholesterol, that material is made after fats are absorbed by the mucus membrane. Here ,too, the interference with absorption would destroy the function. The gallbladder walls are provided with very little muscular tissue. The cyst fills and empties by elasticity, and this action is controlled by duodenal tension and action of the sphincter at the outlet of the common duct. The action of filling and emptying must be seriously interfered with by an inflammation that destroys elasticity of gallbladder walls. All of the relatively unimportant functions may be entirely destroyed by infection and inflammation.

For a full appreciation of the effects of gallbladder disease, we must follow the pathology beyond the organ itself. Adhesions to the stomach, duodenum, colon or ileum may make trouble mechanically. Vomiting and functional disturbances may be caused by their tention. Lymphatic connection makes infection from the gallbladder a probable cause of duodenal ulcer. The frequent coincidence of appendicitis and cholecystitis makes it probable that the infections finds some way of traveling from one to the other. The most serious extension of infection from cholecystitis is probably that to the liver. We have already seen that the lymphatic connection is very close. As may be expected, infection is most evident in that part of the liver nearest the gallbladder, but in long standing cholecystitis a widespread hepatitis may develop. In 1926, Counseller and McIndoe demonstrated by means of celloidin injection in the biliary ducts that in cases of cholecystitis, the ducts and biliary capillaries were dilated to several times the diameter of those in normal livers. Dilation was increased by obstruction but was present in all cases of cholecystitis, with or without obstruction of the duct. This is mentioned here only to indicate that infections of the gallbladder have a decided influence on the liver. The liver is a very important organ in the body. It has functions connected with necessary metabolisms. It has something to do with formation of blood. It arrests and expels bacteria from the blood. It excretes toxins. Many of the toxic symptoms of gallbladder disease may be from interference with liver function. Such pathology must, necessarily, produce symptoms of great variety.

Classical symptoms of gallstone disease with attacks of gallstone colic are easily recognized. Cramping pains over the abdomen, centering in the right epigastrium. Pain referred under the right shoulder blade. The pain usually of sudden onset. Tenderness over the gallbladder region. Nausea and vomiting. Little or no fever. Normal or very slightly increased leukocyte count, until in later periods an empyema or gangrene develops. Recurrence of such attacks with intermissions during which the patient complains only of indigestion, manifested by inability to digest some foods well, moderate discomfort after meals and eructations of gas. There may persist also during this time a variety of toxic symptoms.

In every way there may be wide variation from this typical case.

Pain may not be cramping in type, but may be a deep intense ache hard for the patient to describe and impossible for him to locate. The patient may say that it extends over his whole body from the top of his head to his toes and is so severe that it numbs his brain. The location of the pain is not always in the epigastrium. One patient seen by me had such an intense, crushing, cramping pain the left chest that she was thought to have an attack of angina-pectoris. After the pain subsided, indications of gallbladder disease were found, and operation for this trouble prevented recurrence of angina. A young lady had recurring attacks of pain and tenderness at McBurney's point. At operation a large pendulous gallbladder was found hanging almost over the appendix. Referred pains in gallbladder disease extend to various regions in about this order: First, under the right shoulder blade; second, downward in the right abdomen; third, into the left chest; fourth, into the left abdomen. Distress complained of in cholecystitis without stone may also be referred along these lines. The pain in this condition may be severe and differentiation between cholecystitis with stone and without stone may not be possible by a consideration of this symptom.

Nausea and vomiting are not always present. In other cases vomiting may be a very prominent symptom. In a recent case, the symptom most complained of by the lady was vomiting. She frequently vomited her meals. When she rode in a car, she vomited. Adhesions bound the upper duodenum to the gallbladder. Convalescence after cholecystectomy was not marred by vomiting. Vomiting may accompany the toxaemia. It is then frequently associated with headache and a general feeling of illness, not badly described by the old term of "biliousness".

Indigestion is frequently the complaint for which the patient consults a physician. In the absence of attacks of gallbladder colic, the most prominent symptoms of gallbladder disease are stomach symptoms. The patient has usually observed that he cannot digest fats well, and for that reason has found that fried foods do not agree with him. He usually learns, also, to avoid sweets. Peristalsis is overactive, gas is belched and there is a vague feeling of distress in the stomach which is not marked by the regularity in time after meals, of ulcer.

The *toxic symptoms* should be attributed, no doubt, to a disturbed liver function. This so commonly accompanies cholecystitis that they must in some degree be considered a part of the symptom complex of the disease. Dizziness, headaches, a dull, below-par feeling are complain-of. These symptoms develop greater severity in periodical attacks, with partial freedom between. Attacks of flickering of light around the field of vision, gradually increasing to a short period of almost blindness followed by a severe headache is sometimes described. When toxic symptoms predominate it is easy to overlook the underlying cause, and consider the patient a neurotic.

Tenderness in acute cases is usually found over the gallbladder; but in chronic cases, absence of tenderness does not prove the absence of a cholecystitis.

The diagnosis of gallbladder disease has been greatly facilitated by the Graham test. Graham claims, in his own work, results proven correct in 96% of cases. This still leaves an error of one in twenty-five, when the test is applied by the originator and greatest expert in its use. The percentage of error, in general, is much higher. A careful evaluation of symptoms is still necessary, and when this leads to a clear cut diagnosis, a negative Graham should not be enough to contradict it.

The treatment of cholecystitis must be planned with a view of the pathology in mind. Consideration must be given not only to relief of present symptoms, but to probable future development and complications. It is well not to attempt the impossible or to promise the impossible to the patient. Our whole conception of the treatment has become changed by knowledge that infection is not on the surface of the mucus membrane but lies deep in the gallbladder walls. Cholegogues may give some temporary relief, but they do not cure a gallbladder infection any more than gargles will cure an infection located deep in the crypts of the tonsils.

It is well, also, for us to keep in mind the fact that some of the pathology cannot be reached by any known treatment. We may remove the chief focus in the gallbladder. All obstructions may be relieved, but we cannot reach the cholangitis and the hepatitis. We cannot restore tone to weakened ducts and dilated radicals. The patient should be frankly informed that he will not go through the fountain of youth in the operating room, that some damage has been done, from which recovery will be slow and may never be complete. The picture need not be too pessimistic, however, for we may promise great relief in a large percentage of cases. B. B. Davis' statistics represent what may be expected from operation at the present time. Approximately they are: Cure, 70% to 80%. Relative cures, 15% to 20%. Improvement 4% to 5%. No improvement, 5%.

While they do not reach the infection, there are non-surgical treatments that give some relief. Dietary measures are directed to limiting fats which are not digested well. Needed fat is taken best in cream and butter. Fried foods, because of fat cooked in, are entirely eliminated from the diet. Carbohydrates and sweets are best cut to a minimum.

Cholegogues do promote the flow of bile and promote elimination of toxines. The round of calomel and salts has some merit. Magnesium sulphate is probably the best stimulant to the flow of bile. There are many others to which are attributed similar powers. Sodium sulphate, sodium phosphate, sodium salicylate are said to have such powers. There is no reason why any of these should be more effective when introduced through a tube directly into the duodenum. A. D. Dunn, several years ago, studied bile flow in a case with biliary fistula. It was demonstrated that A, B and C bile were discharged just the same whether magnesium sulphate was taken by mouth or through a duodenal tube.

Cholecystitis is a distinctly surgical disease and by surgery only can the infection be removed and its ill effects be limited. The demands of treatment are not changed by the presence or absence of stones except when obstruction of the ducts requires special attention. Cholecystectomy is the only operation that meets the requirements.

In an address before the Nebraska section of the American College of Surgeons, John B. Deaver said the treatment of cholecystitis is always surgical and as soon as a diagnosis is made the gallbladder should be removed.

It is not meant to infer that acute cholecystitis makes the same threat to life as acute appendicitis or that the gallbladder must be removed during the acute attack, to save life. Cholecystitis, however, is clearly a surgical disease and its treatment is cholecystectomy; done, preferably, during a quiescent period.

DIAGNOSIS AND TREATMENT OF TUBERCULOUS EMPYEMA

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Ninth in a Series of Articles on Surgery of the Thorax.

TUBERCULOUS EMPYEMA

Empyema in which the tubercle bacillus is the infecting organism manifests clinical variations from the ordinary pyogenic type of pleuritis. The principles of management must be revised when the tubercle bacillus is known to be present in the effusion or if the presumptive evidence of its presence is strong. Tuberculous empyema may be defined as that type in which the tubercle bacillus is the only organism present or in which it is present in association with other pyogenic bacteria.

Clinical Varieties of Tuberculous Empyema: The invasion of the pleura by the tubercle bacillus incites a variable reaction depending upon the virulence of the organism and the resistance against it. The result of this reaction may be one of the following clinical varieties:

1. Dry adhesive pleuritis.
2. Pleuritis with serous effusion.
3. Suppurative pleuritis.
4. Hemorrhagic pleuritis.

Tuberculous pleurisy is generally considered to be secondary to lesions of the lungs, chest wall or glands, but it is becoming more clearly established that primary tuberculous pleurisy frequently occurs. This type has its analogne in primary tuberculous peritonitis and may give rise to either a dry adhesive pleuritis or to a serous effusion strikingly similar to the dry plastic and ascitic types of peritonitis. Tuberculous nodules have been found on the pleura in many cases in which the lungs were free. Although Cabot, Rist and Webb expressed doubt with regard to the tuberculous nature of primary serous or idiopathic pleuritis there is considerable evidence to substantiate the opinion that many of these are tuberculous. From 35 to 55 per cent of patients who have had primary serous effusion eventually die of tuberculosis. (Osler, Hedges, Sears). Insurance company statistics show that deaths from tuberculosis is three times as frequent in applicants with a history of serous pleuritis.

A serous effusion may persist for months or years and recur after repeated tapping or disappear entirely after one or two aspirations. Continued aspirations may eventually give rise to a purulent exudate without the introduction of additional organisms.

There is no accepted explanation for the variation in the character of the fluid in tuberculous empyema which causes purulent fluid in one case and a serous one in another.

FREQUENCY OF PRIMARY TUBERCULOUS PLEURISY

Heretofore primary tuberculous pleurisy has been thought to be uncommon. Now we believe it is of quite frequent occurrence. Hodenpyle found the lung free of tuberculosis in 44 of 91 cases in which tuberculous nodules were found on the pleura. The occurrence of an idiopathic empyema, especially if there is a history of a previous serous pleuritis unassociated with pneumonia should arouse the suspicion that it is of tuberculous nature.

THE DIAGNOSIS OF TUBERCULOUS EMPYEMA

There are presumptive evidences that empyema is probably tuberculous. These are found (1) in the history; (2) in the character of the exudate and (3) in the presence of demonstrable tuberculosis in other organs.

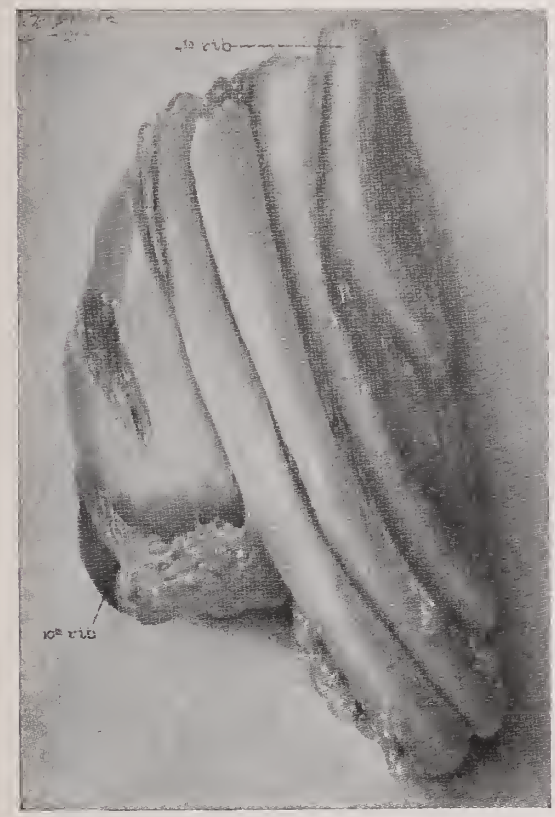
A positive family history of tuberculosis is of some value because cases of pleurisy that later develop tuberculosis frequently present a positive family history. A much larger per cent have a positive family history than is found in pleurisy cases that do not later develop tuberculosis. An insidious onset without preceding infectuous diseases especially when associated with the cardinal symptoms of tuberculosis (fever, night sweats, loss of weight and strength, loss of appetite, increasing nervousness) is nearly positive evidence that tuberculosis is the causative factor in the empyema.

Pleurisy with serous effusion in an adult has the same suggestive significance as hemoptypsis.

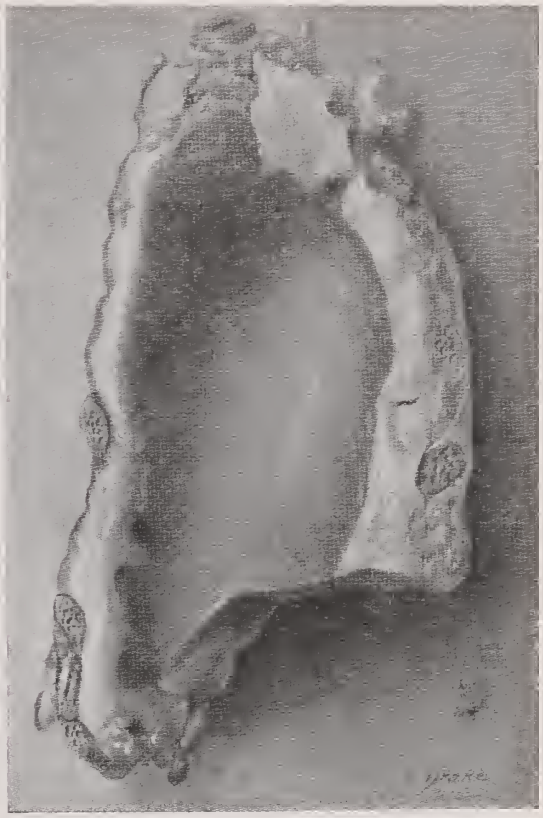
With reference to the character of the exudate a sterile purulent fluid especially in the presence of fever and a low leucocyte count is almost certain to be tuberculous. Many years ago Sahli and more recently Musgrave attached great diagnostic importance to the preponderance of lymphocytes in the exudate.

In 1908 I examined an idiopathic serous effusion from the daughter of a physician. Because of Sahli's pronouncement that a preponderance of lymphocytes usually meant that the effusion was tuberculous I concluded that this case was probably tuberculous although there was no other indication of tuberculosis at that time. It was later reported to me that the patient died of tuberculosis in 1915.

The presence of tuberculosis elsewhere, but especially in the lungs lends weight to the presumptive diagnosis of tuberculous empyema. An associated active lesion with positive sputum findings is quite conclusive. When empyema occurs as a complication of the pneumothorax treatment of tuberculosis it is generally tuberculous even though ordinary pyogenic organisms may be present also.



Overriding and fusion of the ribs in tuberculous empyema of 22 years' duration.



Visceral aspect of specimen shown in Figure 9. Note thickness of parietal pleura.

Reproduced by courtesy of Dr. Carl Hedblom.

Above illustrations visualize the necessity for extensive plastic operation on the chest wall.

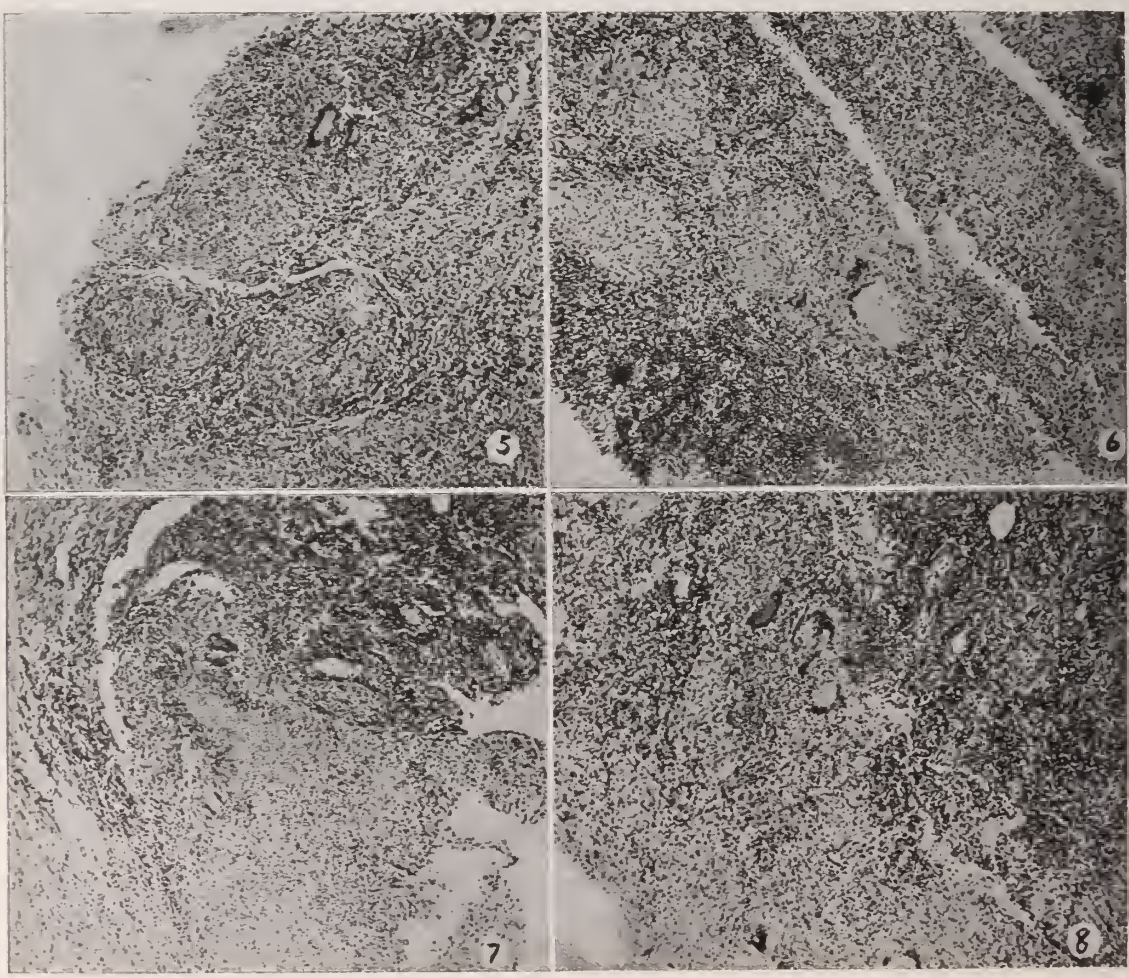
The positive diagnosis of tuberculous empyema requires the demonstration of the tubercle bacillus either by stain, culture or animal inoculation or the finding of the typical histologic picture of tuberculosis in the excised piece of pleura. Due to variation in the virulence of the organism, animal inoculation frequently fails of demonstration. The same is true of laboratory methods. Approximately fifty per cent of known tuberculosis cases will fail of demonstration by either method alone. The combined method obtains positive results in a higher per cent because some that fail of recovery of the organism by laboratory methods will present a positive animal test and visa versa. It is said that pus obtained from the most dependent position of the empyema cavity will yield the best results.

TREATMENT OF TUBERCULOUS EMPYEMA

The chief consideration in the management of empyema concerns the question of whether the tubercle bacillus is the only infecting organism or one of a mixed infection. An open empyema communicating through the chest wall or through a bronchus and whether spontaneous or induced, is always a mixed infection. The closed cavity may present a mixed infection, but is usually uncomplicated with ordinary pyogenic organisms. Therefore the management of tuberculous empyema should be considered separately under the heading of closed and open cavities.

PLEURAL EFFUSION IN A CLOSED CAVITY

A. Single Infection: The most important principle is to avoid the introduction of pyogenic organisms into the pleural cavity, in other words to prevent the addition of mixed infection. These cases are most liable to become the victims of injudicious surgery especially if the exudate is purulent. It should be remembered that a sterile purulent exudate presents the same condition as a serous exudate and should be treated on the same principles. The hackneyed phrase "*ubi pus ibi evacue*" is not applicable to this condition. There is evidence to support the view that a sterile tuberculous fluid whether serous, hemorrhagic or purulent exerts a healing effect on a tuberculous process in the lung quite in excess of that accounted for by compression. It is thought to be due to a biologic process of great importance. Unless there is sufficient fluid to cause mechanical embarrassment to circulation or respiration it should not be aspirated. The removal of large amounts of fluid at one time has been followed by miliary tuberculosis and also it seems to stimulate rapid reaccumulation. On the other hand withdrawal of small quantities often results in an augmented rate of spontaneous absorption. It is probably never advisable to remove large quantities at one time. If there is extensive lung envolvement for which pneumothorax compression is desired, filtered air may be injected to replace all or a part of the volume of fluid removed. This is especially indicated when a pleural effusion occurs in the course of pneumothorax therapy.



Reproduced by courtesy of Dr. Carl Hedblom.
Typical histologic picture of tuberculous pleuritis. Microscopic section from a piece of excised pleura.

B. Mixed infection in a closed cavity: If there is a mixed infection in a closed cavity it is necessary to establish immediately thorough and effective drainage with antiseptic irrigation. The thoracotomy may be by either the closed or open method. The closed method if antiseptic irrigations can be carried out is preferable since the cavity may be sterilized, except for the tubercle bacillus and reduced in size. Symptoms of septic absorption are ameliorated and if a later extrapleural thoracoplasty is needed conditions will be more favorable.

The irrigating fluid should be a non-irritating one. Dakin's solution is contraindicated because the visceral pleura is thin. The irritation of this fluid may cause a rupture into a bronchus producing a troublesome fistula or hemorrhage. The solutions most suitable are normal salt, one half per cent, lysol or a weak solution of iodine in potassium iodide.

Treatment of Tuberculous Effusion in an open Pleural Cavity.

The perforation into the pleural cavity may be through the chest wall as a result of surgical thoracotomy or spontaneous rupture of empyema necessitatis. It may be through a bronchus as a result of rupture of a tuberculous cavity giving rise to a bronchial fistula and spontaneous pneumothorax. The cavity may be a mere sinus or the entire pleural cavity.

In cavities with surgical thoracotomy irrigation with antiseptic solutions is advisable. Dakin's solution is not contraindicated here because the visceral pleura is usually greatly thickened. It does not kill the tubercle bacillus, but it inhibits the growth of the ordinary pyogenic organisms. In impending *empyema necessitatis* a preliminary open drainage is required and because of their long duration and excessive pathology plastic operations are often necessary later.

In tuberculous empyema associated with a large bronchial fistula due to the rupture of a tuberculous cavitation, a wide drainage opening by rib resection thoracotomy is required. Antiseptic irrigation may be impossible because of the irrigation due to the fluid. The immediate mortality is high and if they survive, often require later plastic operations. (See treatment of bronchial fistual).

TREATMENT OF CHRONIC TUBERCULOUS EMPYEMATA

In this connection chronic tuberculosis empyemata refers to the cases which fail to recover after reasonable effort of treatment by aspiration or closed drainage with antiseptic irrigation. The procedures available in these cases may be classified as follows:

1. Open drainage (rib resection thoracotomy).
2. Decortication operations.
3. Plastic operations.
    a. Estlander's (Extrapleural rib resection).
    b. Beck's (resection of chest wall and skin flap).
    c. Robinson's (resection of chest wall and muscle and skin flap).
    d. Schede (radical resection).
    e. Wilms-Sauerbruch (three stage thoracoplasty).

With reference to open drainage it should be emphasized that it is never indicated in pure tuberculous or sterile empyema. It is only in cases of mixed infection, empyema necessitatis and those with large bronchial fistulae that its use is justified.

Chronicity in tuberculous empyema as in other types of chronic empyema is due in part to the failure of reexpansion of the lung, because of a thick enveloping fibrous corset that compresses the lung and interstitial fibrosis. *Decortication* of the lung by the Delorme-Fowler or Lilienthal method has been attempted with little result. Most cases have required later plastic operations. Decortication is probably never indicated in tuberculous empyema.

The plastic operations have for their primary objective the collapse of the chest wall and obliteration of the cavity. The evolution of the thoracoplastic operations from the extremely radical resections of Estlander, Beck and Schede to that which is least dangerous and mutilating, the Wilms-Sauerbruch para-vertebral thoracoplasty in multiple stages, is an interesting chapter in the progress of thoracic surgery. Wilms and Sauerbruch recommend resecting 10 to 15 cm. of the sixth to eleventh ribs posteriorly at the first operation and 8 or 10 cm. of the fifth to second or first rib at the second operation. The elasticity of the sternal ends of the ribs permits the entire chest wall to drop in. The detailed technic of thoracoplastic operations will be given elsewhere.

Hedblom has arranged an excellent summary of the principles involved in the management of tuberculous empyema which is included here verbatum.

"1. Primary or idiopathic pleurisy with effusion, in a large proportion of cases, is probably tuberculous in nature.

2. A past history of pleurisy with effusion is common in cases of tuberculous empyema. In many cases the effusion is serous at the onset.

3. Tuberculous pleurisy may be primary, or it may be secondary to a pulmonary, peritoneal, or other tuberculous lesion.

4. The onset of a tuberculous effusion may be insidious or it may be sudden and associated with an acute and severe constitutional reaction. A mixed pleural infection due to the perforation of a tuberculous cavitation often runs an acute and rapidly fatal course.

5. Diagnosis of tuberculous empyema is made by demonstration of the bacilli in the exudate, by animal innoculation, or by examination of the sectioned pleura.

6. A sterile effusion is probably tuberculous. An infected effusion may be tuberculous.

7. Empyema following primary idiopathic pleurisy with effusion, or empyema of insidious onset, espe-

cially in the presence of a pulmonary or other tuberculous condition, is probably tuberculous.

8. Empyema may be tuberculous in spite of persistently negative findings over a long period of time.

9. In a closed pleural cavity a sterile effusion, whether serous or purulent, should not be treated by open drainage, except in the presence of an impending perforation of the chest wall.

10. Repeated aspiration of only part of the fluid present is indicated in cases of serous effusion producing definite dyspnoea on exertion or symptoms of circulatory embarrassment.

11. The replacing of aspirated fluid by nitrogen or filtered air may be indicated in cases in which there are symptoms of active phthisis referable to the same side as the effusion.

12. A sterile purulent effusion should be treated as though it were serous if the lung expands when fluid is withdrawn. If the lung is fixed in a collapsed condition or if the effusion persistently recurs, an extrapleural plastic operation is indicated.

13. Effusion in a closed cavity showing a mixed infection should be treated by the closed method with antiseptic solution irrigation, or by open drainage; the open drainage is indicated especially in cases of severe infection associated with extensive pulmonary tuberculosis, making irrigation hazardous.

14. Tuberculous empyema with a large bronchial fistula should be drained by the open method.

15. A large tuberculous empyema with mixed infection from a previous drainage operation or from spontaneous perforation of the chest wall requires a plastic operation, preferably after treatment with Dakin's solution.

16. A plastic operation involving closure of a bronchus offers the only prospect of cure in case of an associated large bronchial fistula.

17. Dakin's solution irrigation may be contra-indicated in the presence of an extensively diseased lung, owing to its corroding action on any superficial lesion, possibly resulting in hemorrhage or the formation of a bronchial fistula.

18. A plastic operation is usually eventually required in the case of closed cavities when the empyema is of long standing, and of all large, open, secondarily infected cavities.

19. An extrapleural rib resection is indicated for the collapse of closed sterile cavities. The Boiffin-Wilms operation is especially suitable for the collapse of large cavities without excessive thickening of the parietal pleura or rib deformity.

20. A skin or skin muscle plastic is indicated for the obliteration of relatively small cavities. Cases of long standing associated with greatly thickened pleura require an extensive resection of the entire chest wall after the method of Schede.

21. Operation in several stages is especially indicated in the treatment of tuberculous empyema, and, if practicable, it should be preceded by antiseptic solution irrigation. Such treatment should extend the indications for operation and should lower the postoperative mortality."

FRONTAL LOBE LESIONS

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The refinements in diagnostic acumen and operative technique have enlarged the scope of neurosurgery to such an extent that a general discussion of brain tumors is as impractical as a general discussion of malignancy. Thus to approach the subject of cerebral neoplasms intelligently it should be considered from either an anatomical or pathological standpoint, and in view of the somewhat unintelligible jargon of the neurosurgeon or neuropathologist a presentation of anatomical and clinical findings seems to be most instructive.

An attempt will be made to illustrate some of the salient features of lesions in the frontal lobe and to discuss their relative importance.

SYMPTOMS AND PHYSICAL FINDINGS

The three cardinal symptoms leading to a diagnosis of brain tumor are (1) headache, (2) choked discs, and (3) projectile vomiting. However one or more of these classical symptoms may be conspicuously absent in the case of a frontal lobe tumor and lesions in this region have a peculiar train of symptoms which are diagnostic in themselves.

PARALYSIS

(a) Facial paralysis or weakness is one of the most reliable findings in this group. The paralysis is limited to the lower half of the face and is on the opposite side from the tumor. Many relatives insist that the patient has always had a "crooked" smile, but it is interesting to note a difference in facial symmetry after removal of the tumor or even a decompression.

(b) Contra-lateral weakness or hemiplegia may or may not be present in the case of a frontal lobe tumor, depending entirely upon the size and situation of the lesion. Often a contralateral weakness is due to edema and will subside after relief of pressure.

(c) Aphasia or speech difficulty is present in tumors of the left frontal lobe and this may vary from an absolute inability to speak to mis-naming of objects, people and places. The speech center is believed to be in the third frontal convolution immediately anterior to the Rolandic fissure, but not infrequently this region is entirely destroyed and the patient is not completely aphasic. The fact that the majority of people are right handed accounts for the localization on the left side of the brain. I have seen two cases in which the patients, when small children had a natural tendency to be left handed but were educated to use the right hand, who suffered a complete aphasia following destruction of the left frontal lobe re-educate themselves by apparently utilizing their natural speech center in the right frontal region. So that our final opinions on the actual location of the speech center are not definite, and at present we can merely accept the fact that this region at least occupies an important role in the production of speech.

MENTAL CHANGES

Changes in personality contribute largely to a suspicion of frontal lobe involvement, and this again will deviate from the time honored classic manifestation. The popular "witzelsucht" or jovial, euphoric mental state with absolute freedom from care or responsibility is often a striking feature of frontal lobe lesions, but I do not feel that this is always the case. I have seen many cases in which a patient, who heretofore was of a very stable type become mean, surly and sometimes ferocious. The tendency to cry spontaneously for no reason at all is frequently observed and may or may not be associated with either the jovial or morose types of personality change. Other types of mental change are memory loss for recent events while incidents of long ago are as clear as if they happened yesterday. The general dullness of mentality is not necessarily an indication of frontal lobe involvement as this may be due to increased intracranial pressure.

OCULAR MANIFESTATIONS

(a) Choked discs or edema of the nerve heads are not as common in frontal lobe tumor as in other cerebral neoplasms. This pressure sign seldom appears early except in baso-frontal or olfactory groove lesions when the ocular picture is diagnostic. This classical syndrome consists of edema to a moderate degree, with an enlargement of the blind spot beyond the line of central vision, on the side of the tumor and an edema of the contralateral nerve head. Other changes in the visual fields are uncommon unless the lesion presses back upon the temporal lobe.

(b) Paralysis of the eye muscles is not of a great deal of help, especially if the external recti are affected, because this may be merely a pressure phenomenon. Absence of light or accommodation reflex may or may not be of significance in a frontal lesion unless other signs accompany the eye findings. In two of the case reports to follow there was a partial third nerve paralysis which disappeared after decompression. Thus ocular palsies alone are not sufficient evidence to place the lesion in the frontal lobe.

(c) Many cases of brain tumor present nystagmus and it is often confusing because this condition may be due to either a cerebellar or frontal lobe lesion. I have observed that nystagmus due to frontal lobe tumor is of an irregular incoordinated type rather than the rythmic twitching of a cerebellar nystagmus. I believe that there is a cerebral center for control of ocular movements and this may be destroyed, thus giving the eye movements the clumsy jerking that can be so puzzling unless deliberately studied. This explanation also covers the occasional case of ataxia due to a frontal lobe lesion.

HEADACHES

Headache, over any length of time, usually occurring early in the morning or on exertion should be looked upon as a sign of increased intracranial pressure. These headaches may be associated with vomiting which is of the projectile type or preceded by nausea.

The headache due to a frontal lobe tumor may not be as severe as those due to lesions elsewhere in the brain and are either bitemporal, frontal or generalized. Percussion tenderness occasionally indicates the site of the tumor, but this sign is not very reliable.

CONVULSIONS

Convulsive phenomena are present in about thirty per cent of frontal lobe tumors, and may begin with a jerking of contralateral face then extend to arm and leg. Rarely, until late, do these convulsive seizures become generalized. Usually a convulsion due to a frontal lobe lesion is accompanied by a rotation of the eyes toward the side of the lesion.

REFLEXES

The exaggeration of tendon reflexes on the contralateral side is an indication of pyramidal tract involvement and usually accompanies weakness or paralysis. The Babinski response or extension of the great toe when the sole of the foot is scratched is very indicative of cerebral tumor, usually frontal. The Hoffman reflex or flexion of the thumb when the ring finger is sharply flexed bears the same significance for the upper extremity.

Absence of abdominal reflexes on the contralateral side of the body is of importance in determining early pyramidal tract involvement.

The most valuable reflex which indicates a frontal lobe lesion is the grasping reflex or a tendency to hold the examiner's fingers as he attempts to pull them from the patient's hand.

X-RAY

Not more than two per cent of frontal lobe tumors manifest their presence in the roentgen ray. These evidences are calcification, erosion of the bone and involvement of the skull by extension.

In cases of doubtful localization a ventriculogram is indicated, and if a frontal lobe tumor is present the anterior horns of the lateral ventricles will be pushed up and away from the tumor.

CASE REPORTS

The following case records are quite typical of frontal lobe lesions and are given to illustrate the importance of the above named symptoms.

Case 1. Mrs. C. B., 38, housewife, was referred to my service at the Methodist hospital, April 21, 1930, by Dr. J. A. Wm. Johnson of Newton, Iowa. The patient was comatose on admission and the history, obtained from the family, was that three years ago she had a generalized convulsion followed by a loss of consciousness for two hours. She then enjoyed good health until August, 1929, when she had two similar attacks in twenty-four hours. Since then these seizures occurred every two or three months.

In March, 1930, a weakness of the right arm and leg appeared, followed by a motor aphasia, or difficulty in naming objects. Three days before admission her disposition changed from a usually happy individual to a cross, surly individual who complained of severe headache, chiefly in the frontal region, accompanied by vomiting. The right pupil became larger than the left and the neck was very rigid. On the day she was sent to the hospital the patient suddenly lost consciousness.

Examination: The general and laboratory examinations were essentially negative. The Wassermann was negative.

Neurological examination: The patient was in deep coma, the neck was rigid, the right pupil was larger than the left and did not react to light. There was a bilateral edema of the optic discs measuring 2 diopters. Right hemiplegia, exaggerated reflexes on the right, absent abdominal reflexes and the Babinski, with its confirmatory tests, was present on the right side.

50 cc of 50% glucose was given intravenously and the patient partially regained consciousness, at which time the right hemiplegia was very evident. The patient again lapsed into coma and it was felt that a decompression was imperative.

The presence of a partial third nerve paralysis on the right, a rigid neck and a right hemiplegia was indeed confusing, but it was felt that the left frontotemporal region should be explored because of the right hemiplegia and history of aphasia.

On April 22, 1930, under local anesthesia, an osteoplastic flap was turned over this area. A tumor was encountered 3 cm. below the cortex of the left frontal lobe. Because of the patient's poor condition it was felt that a decompression was all that could be accomplished at that time.

Upon returning to her room the patient partially regained consciousness and it was noted that the pupils were equal, also the neck rigidity had disappeared. The patient developed a hyperthermia and died the following day.

At autopsy a tumor 5x7 cm. was found in the left fronto-temporal region. This was not encapsulated and was very vascular. The microscopic diagnosis was glioma (spongioblastoma unipolare).

This case was different because of the many signs, and had she not been in such a poor condition a ventriculogram would have been indicated. The third nerve paralysis and rigid neck, seldom seen in frontal lobe lesions, were apparently due to pressure as they disappeared after decompression.

Case 2. Mrs. T. F., 61, housewife, was referred to my service at Mercy hospital, August 6, 1930, by Dr. C. C. Jones of Des Moines.

She complained of severe frontal headaches, memory loss, speech difficulty and weakness of the right leg. The patient had migrane until the menopause and was free from headaches until five years ago. A radical antrum operation was performed and headaches returned. In May, 1930, the headaches became intense and the patient consulted Dr. Jones who found the left frontal sinus was badly infected. He explored this sinus and the headaches were relieved until July. Then the headaches returned, chiefly in the morning, were accompanied by memory loss, speech difficulty and a tendency to cry at the least provocation. The right leg became a little weak and in August Dr. Jones discovered a bilateral edema of the optic discs.

Examination: The general examination was essentially negative except for a leucocyte count of 12,000 and a temperature of 98.8°. X-rays of skull and chest were negative.

Neurological examination revealed a bilateral edema of the discs, less than 1 diopter, normal perimetric fields, partial motor aphasia and a slight facial weakness on the right. There was a tendency to drag the right leg and the Babinski response was positive on the right.

Spinal puncture revealed a clear fluid, pressure 34/30 mm. of mercury and two cells. Blood and spinal fluid Wassermann tests were negative.

Because of the left frontal sinus infection it was feared that there might have been an extension into the left frontal lobe, so, on August 18, 1930, a trephine opening was made over this region and a needle was inserted. Pus was not encountered but a mass was felt at a depth of 2 cm. An osteoplastic flap was turned over the left fronto-parietal region and a subcortical mass was felt in the left frontal lobe at a depth of 2 cm. Tissue was aspirated and the histologic diagnosis was glioma (spongioblastoma multiforme).

Resection of the frontal lobe was considered but because of the malignancy of this type of glioma it was decided to merely effect a decompression and give x-ray. The patient made an uneventful recovery and has had three courses of deep x-ray therapy. The headaches have disappeared, the outlook on life is more cheerful and the weakness of the right leg is somewhat better.

This case was interesting because of the question of abscess vs. tumor, and although the ultimate prognosis is poor at the present the patient is much happier and more comfortable.

Case 3. Mrs. L. M., 35, housewife, was referred to my service at Mercy hospital, November 6, 1930, by Dr. L. M. Nourse of Des Moines. The patient was perfectly well until July, 1930, when she began having severe frontal headaches, occurring early in the morning or on exertion. She had some memory loss and the day before admission to the hospital she had two convulsive attacks involving only the left face and arm with no loss of consciousness.

After admission she became drowsy, was indifferent to her surroundings and developed bowel and bladder incontinence.

Examination: General physical examination was essentially negative. X-rays of skull and chest were negative.

Opthamologic examination by Dr. H. C. Schmitz revealed fullness of retinal veins and hazy disc margins. There was a ptosis of the right lid, the right pupil was larger than the left and did not react to light or accommodation. The patient would not cooperate for a satisfactory test of the perimetric fields. There were no other neurologic findings except absence of the abdominal reflexes. Because of the personality change a frontal lobe tumor was suspected but again the right third nerve paralysis was confusing.

Spinal puncture showed a clear fluid, pressure of 60/50 mm. of mercury and twelve cells. Blood and spinal fluid Wassermann tests were negative.

November 8, 1930, a ventricular study was made and the x-ray pictures showed the ventricles pushed to the left. We concluded that the tumor was in the right frontal lobe and on November 10, 1930, an osteoplastic flap was turned over the right frontal lobe. The brain was under tremendous tension and a tumor was encountered 3 cm. below the surface of the right frontal lobe. Because of the extent of the tumor into the parietal lobe a resection of the tumor mass was impossible and the wound was closed after leaving a bony defect for decompression. The patient was awake and talking when she left the operating room, and it was noticed that the right third nerve paralysis had completely disappeared. A few hours later she developed a hyperthermia and died nine hours post-operatively.

At autopsy a tumor 9x7 cm. was found in the right fronto-parieal lobes, involving the anterior horn of the right lateral ventricle. Microscopic diagnosis was glioma (spongioblastoma multiforme).

This case again illustrated the unusual phenomenon of a third nerve paralysis in a frontal lobe tumor which disappeared after decompression. The localization in this case was by ventriculogram, and apparently the hyperthermia and death in these two cases was the result of a sudden release of markedly increased intracranial pressure followed by a secondary edema.

Case 4. Mrs. R. C., 41, housewife, was referred to my service, November 25, 1930, at Methodist hospital by Dr. J. B. Synhorst of Des Moines.

She complained of memory loss and marked weakness of the left arm and leg.

She had been well except for a toxic adenoma of the thyroid which had been removed in August, 1930.

October, 1930, she noticed her memory failing and that she would cry for no reason at all. She had dull frontal headaches on exertion, and November 21, 1930, the left leg began to jerk. Shortly after the leg became so weak that she could not walk without assistance and the next day her left arm became very weak.

General examination was essentially negative.

Neurological examination revealed an indifferent individual who was at one time euphoric and the next moment would cry. The optic discs were hazy and the retinal veins were engorged. Perimetric fields were normal. The left arm and leg were very weak and the tendon reflexes on this side were exaggerated. The Hoffman and Babinski reflexes were positive on the left and the abdominal reflexes were absent. X-rays of the chest and skull were negative.

Spinal puncture showed a clear fluid, pressure 21/11 and one cell. Blood and spinal fluid Wassermann tests were negative.

A diagnosis of right frontal lobe tumor was made, and on November 28, 1930, an osteoplastic flap was turned over the right frontal lobe. The dura was tense and bulging. When this was opened the arachnoid appeared thick and cloudy; there was a large collection of fluid in the subarachnoid space over the frontal lobe. When the arachnoid was incised and the fluid ran out the brain began to pulsate. A trocar was inserted into the frontal lobe but no mass was felt.

A diagnosis of cystic arachnoiditis was made and the wound closed with a bony defect for decompression.

The patient made an uneventful recovery and left the hospital in ten days with complete return of function in the arm and leg, also her personality returned to what it had been before the onset of her illness.

She is apparently well and shows no indication of further trouble.

This case is of interest because it shows that circumscribed collection of fluid in the subarachnoid space can act as a tumor.

SUMMARY

1. The above case reports indicate that frontal lobe tumors have a characteristic train of symptoms such as memory loss, personality change, facial weakness, contralateral paralysis and signs of increased intracranial pressure.

2. An earlier recognition of this type of case is conducive to earlier treatment and a better prognosis.

3. The cases in which localization is uncertain can be aided by ventriculography.

SPEAKING OF OPERATIONS

Jones: "Old Bill died following the operation."

Smith: "How sad! I didn't even know he was ill."

Jones: "It was his wife that had the operation, and she talked him to death afterward telling him about it."

WE'VE SUSPECTED THIS

Patient (very): "It appears to me, Doctor, that your charges are rather steep."

Dr. Gouger: "Well, I'm not running this sanitarium for my own health."

EPITHELIOMA OF THE CORNEA IN BOTH EYES

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Epithelioma of the cornea is a relatively rare disease and on account of the fact that it is unusual and occurs with such rarity in the practice of the average physician, it may be overlooked during its stages of curability and only brought to the attention of the specialist in eye diseases after it has attained such proportions as to produce very widespread destruction of tissue, or after metastasis to distant parts has taken place. These tumors do not metastasize early, and they do not ulcerate early, but they do advance relentlessly and do invade the external structures of the eye and orbit, so whether the type of growth be of the papillomatous kind or the common squamous cell variety, the ultimate termination of the untreated disease is the same, the only difference being in the time consumed by the destructive process.

In most cases the pathological process starts at the limbus. This is probably on account of the fact that here an epithelial transition occurs. The malignant process may start at the tip of a pterygium.

This report concerns a case in which the patient had epithelioma of the cornea in both eyes.

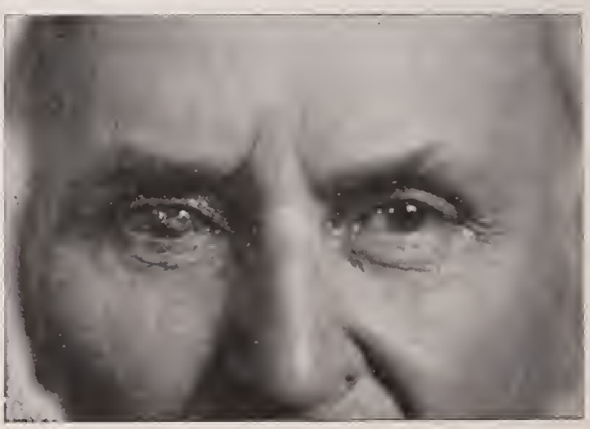
The patient is a man, age 57, by occupation a farmer, apparently in good health, referred by Dr. J. M. Patton with a diagnosis of epithelioma of the left cornea, on February 17, 1930.

Examination: The right eye is completely blind on account of a cataract. It has a scar resulting from an old injury which involves about one-fifth of the cornea and produces some opacity of the cornea. The left eye is normal except for the tumor growth which extends from the external part of the limbus over nearly the whole area of the cornea. At the lower and outer quarter of the cornea there is a clear area through which light passes. By holding the head back and turning the eye upward the patient can see through this small clear area. The tumor mass is a somewhat roughened, opaque, epithelial proliferation which presents whitish spots on the surface which seem to permeate the growth. There is a history of having had the growth completely removed on two different occasions. After each operation the growth quickly recurred.

Treatment: A tube of radium sulphate was applied to the growth for four periods of forty-five minutes each. The tube contained fifteen milligrams of radium element of a sixty-five per cent purity. The screening consisted of one-half millimeter pure gold and one-half millimeter of gum rubber. During the time that the radium was in place the cornea was kept moistened by occasional applications of normal salt solution. Three weeks after the treatment there was some radium reaction manifested by redness of the eye ball and some local tenderness. During the next three weeks these symptoms entirely disappeared and the cornea became entirely clear. No trace of the growth remained. The patient's sight cleared up in an entirely satisfactory manner, the sight is normal, the cornea is clear, and the eye is apparently entirely well at the present time.

Examination of right eye December 22, 1930. The patient's family physician noticed an epithelioma developing on the right cornea in November, 1930. The growth developed rapidly and covered the whole cornea in about six weeks. He was sent to the office of Doctors Gifford, Patton, Potts and Callfas where a diagnosis of epithelioma of the cornea was made, and was referred to me for radium treatment. At this time the cornea presented an appearance almost identical with the condition which had formerly existed in the other eye except that the growth in the right eye, involving as it did the old scar, was apparently more deeply imbedded where it invaded the old scar tissue. A somewhat heavier radium radiation was given. At the present time the cornea is clearing in a satisfactory manner and the epithelioma apparently has been completely destroyed.

This case is of considerable interest on account of the fact that the patient has had an epithelioma of the cornea in both eyes. It is also of interest from the standpoint of the use of radium in the treatment of corneal epithelioma. Used in proper doses and with proper screening the radium leaves the cornea entirely clear and apparently has no bad effect on the eye. The effective depth to which satisfactory killing effect on malignant cells can be given is much greater than the depth that can be obtained by any other treatment. Surgical removal, diathermy, and other destructive methods have less penetration and involve more destruction of surrounding normal tissues and produce more scarring with less probability of killing out the more deeply seated malignant cells.



Photograph showing epithelioma of the right cornea. The patient had had an epithelioma of the left cornea in February, 1930. This had been treated with radium and entirely cleared up. The epithelioma on the right cornea appeared several months later in November, 1930.

PIONEER DOCTORS OF BROWN COUNTY, NEBRASKA

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The early history of medicine in Brown County, Nebraska, like the early history of the settlement of all new countries, can never be written quite clearly. Too many of the occurrences of that time are forgotten. What would be counted thrilling in this time of good roads and automobiles were just every day occurrences. In the early eighties in Brown county the pioneer doctor was never troubled by the telephone ringing in the night but his rest was often disturbed by someone knocking on his front door and demanding that he make a trip to attend some sick or accidentally injured persons, twenty-five, thirty-five, or even fifty miles away. Early settlement in the sand hill country south, and tributary to Ainsworth, Long Pine and Johnstown, were made by stockmen along the streams of water because of the better feed and the easy accessiblity of the water for the stock. These streams were the Calamus, 25 miles south, Goose creek 35 miles south, the Bloody 35 miles south and the North Loup 50 miles south. Between these river settlements and the better settled table lands north, lay a vast expanse of sand hills and small valleys, each sand hill, with its blowing top of white sand, looking just like every other sand hill, with only dim trails instead of traveled roads to guide the traveler. In good weather a trip to the nearest settlement south, by hard driving could be made in a day, but to the farther settlements it was an all day and night drive, or, if conditions were bad it meant two nights and a day or, two days and a night, with but little time for rest and refreshment. To the north, over the table land conditions for travel were better. Here the roads, or trails, took the most convenient course without regard to homesteads or section lines. Along both sides of the Niobrara river there was a house at the bottom of almost every canyon. To make it possible to reach these houses from the table above, narrow winding roads had been dug into and down the side of the canyon. Here the early doctor encountered rough and not always too safe going. I recall a canyon experience of the fall of 1884. A brother from Indiana, who afterwards moved to Nebraska was visiting me and riding with me to see the country. One evening about sun down we drove down one of these shoveled out roads to the home of Harve Markley at the bottom of a canyon, on the north side and six miles down the river from the Mead bridge. When I was ready to start home it was quite dark and my brother asked: "How are you going to get out of here?" I answered: "Drive out the way we came in." He said: "You can't see to drive out of here. I answered: "No, but the team will take us out." He replied: "They may take you out but they won't take me, there are some folks down in Indiana I want to see again before I die." In order to get him to go I had to hire a man to ride ahead of us with a lantern to light the way back to the bridge. All the country north of Ainsworth to the South Dakota line was without a doctor, and was considered Ainsworth territory, and many long drives were made into it by Ainsworth doctors. One advantage we had on these north drives, we could always stop at Mead's ranch or at Springview for a good meal or to feed and rest our teams. To complete a history, at all accurate, of the pioneer doctors of Brown county has required considerable research and inquiry, coupled with the knowledge possessed by the writer himself, who was among the early arrivals.

The first law regulating the practice of medicine in Nebraska was placed upon the statute books in 1880. The provisions were: Graduates of reputable Medical schools shall register with the county clerk of the county in which they desire to practice and also provided that non-graduates who had been engaged in the practice of medicine for two years prior to the taking effect of the statute were allowed to continue to practice medicine on registration. All applicants for registration under this act were required to give age, place of birth, college from which graduated, and date of graduation, also place or places where they had previously practiced, and time at such place. All physicians practicing in the county were supposed to register under this act up to 1891. In 1891 an act creating the State Board of Health was passed. This act required all physicians to register with the State Board of Health, which would issue a license, this license then to be registered with the county clerk.

This history will not attempt to go beyond the present boundaries of Brown county, and will not be extended further than the year of 1890.

The first white inhabitants of Brown county were not in the nature of permanent residents, they were ranchers attracted to this section by the abundance of rich grass. These ranchers established themselves along the streams using the uplands with their abundant supply of Buffalo and other grass as a range for herds. Some of these ranches were established prior to 1879, but most of them in 1879 and 1880.

A few permanent homes had been established in Brown county prior to the arrival of the railroad which reached Long Pine in October 1881. Most of such settlers had come in via the "Prairie Schooner," but some had driven in from the end of the railroad at towns further east. As yet no doctor had put in an appearance in this part of Nebraska. The closest medical help was at O'Neill, Nebraska, but with the coming of the railroad came **Dr. Alfred Lewis** to locate temporarily in Long Pine, where he remained until the road reached Valentine and then moved on to locate permanently there. Dr. Alfred Lewis was born at Worcester, England, November 5th, 1858. Graduated from the Kansas City Medical College in 1880, began his practice at Long Pine, Nebr., in 1881, moved to Valentine, Nebr., 1883, where he continued the practice until 1928 when he moved to Mesa, Arizona, where he died April 20, 1929.

With the building of the railroad the settlement of this territory was on in earnest. Every train brought in its quota of home seekers, location agents were plentiful and of the usual type.

By the fall of 1882 almost every section of good table land had been either homesteaded, pre-empted or taken as a timber claim, and, sod, log or frame houses marked most of the quarter sections, proclaiming to the world that here was the home of a permanent settler, the home of a man with snap, courage and perserverance, to hew out of this virgin prairie a farm to delight the vision of an agriculturist.

But not all of those who came in with the grand rush of 1881 and 1882 were looking for land upon which to establish homes. Among them were merchants, hardware men, blacksmiths, lawyers, preachers, saloon keepers, and at least one doctor, **Dr. Wm. B. Loomis,** who homesteaded a quarter section of land one-half mile north of the northeast corner of the town of Ainsworth. Here in the spring of 1882 Dr. Loomis established his residence, thus becoming, as far as I have been able to ascertain, the first resident doctor of Brown county, Nebraska. Bringing in logs from the Niobrara river he built, what was, for a new county, a very neat and commodious log house where he lived for many years. It was not the intention of Dr. Loomis when he came west to resume the practice of medicine; his mind was set on a farm home and a life devoted to agriculture, but the call of the sick, with no other doctor near, forced him back into the practice which he followed very successfully for several years. As other doctors became accessible he gradually dropped out of practice and spent his time upon the farm. His record as filed with the county clerk of Brown county on January 14th. 1884, is as follows:

Dr. Wm. B. Loomis, born at Worcester, Otsego county, New York, in the year 1838, he studied medicine in the Albany Medical college at the session of 1863. Practiced medicine at Deep River, Lake county, Indiana, the year of 1868. Practiced from 1869 to 1878 in Numcae, Ottawa county, Michigan. From 1876 to 1878 in Burtonville, Montgomery county, New York. From 1878 to 1882 in West Side, Crawford county, Iowa, and one year and a half in Brown county, Nebraska.

A writer in the "History of Medicine in Nebraska" has this to say of Dr. Loomis. He was a man of about 60 years of age and wore a full gray beard, moderately long. He had an average sized body with legs only just long enough to reach the ground. In other words, rather short. He was perhaps five feet six inches tall and weighed about 160 pounds. I am sure that I never saw him in a buggy, but I have seen him many times on his saddle pony. This pony was a little bald-faced brown mare with a crooked Roman nose and a nervous system strung to the highest tension. His bridle had a long-jawed curb bit which this pony knew well how to bring back against the breast so that when the doctor pulled, he was pulling against her body and not her mouth. When the doctor prepared to mount, she prepared to run. When she felt his weight in the stirrup, she was off. If the doctor lit in the saddle, all right, and if not, he could climb to position as she ran, and run she always did. When you saw them coming, it always looked like a race with death or the stork. The mare running, the doctor pulling, his saddle bags standing straight out on either side, with his long overcoat flying back on the pony's tail."

About 1906 or 1907 Dr. Loomis sold out here and moved with his good wife to Green River, Utah, where since they both died. This is rather a long account of Dr. Loomis, but being the first permanent doctor in the county it is deserved.

Dr. Orla H. Crane. As shown by his filing with the county clerk, Dr. Crane came to Brown county in the fall of 1882 and immediately established himself in practice in Ainsworth. Soon after he put in a drugstore on Main street, which he operated successfully for several years. Dr. Crane took up the study of medicine in 1869, studying in the office of Dr. Wm. Young for six months, then transferred to the office of Dr. Israel Mitchell, where he studied for two years, then attended a six months course of lectures at the Iowa State University at Iowa City, Iowa, then took up the practice of medicine, which he adhered to in the following places before coming to Nebraska: Kerwin, Kansas, two years; Horton Center, Kansas, six years; and Weigent, Iowa, two years. Dr. Crane was not a graduate in medicine and was never physically strong, but he was a good student and endowed with a good memory and sound judgment and his diagnosis and treatment of disease would measure up favorably by the side of many doctors with a much more pretentious education. Dr. Crane moved with his family from Ainsworth to California in the early years of 1900, where for some time he managed a small fruit farm, and where he died several years ago.

Dr. John Thill, a native of Germany, moved from Denison, Iowa, where he had been engaged in the practice of medicine for some years, to a homestead near the German church northwest of Ainsworth in the year 1883. It was his intention, in coming to Nebraska, to give up medicine and take up farming and stock raising, which he did to a great extent. But during the early years, when doctors were scarce, he did quite a practice among his German neighbors. Along about 1889 or 1890 he gave up farming, and moved into Ainsworth, where for a time he engaged in the butcher business. Later he sold out his butcher business and, in partnership with Henry Lochmiller, went into the saloon business, but local option put them out of business. Later he sold his Brown county holdings and moved to California where he died a few years later.

Martha A. Leonard, the first and only woman doctor in Brown county at this early period, filed for practice in Ainsworth on the first day of November, 1883. She states that she is 46 years old, not ashamed to tell her age, and that she had practiced medicine and obstetrics in the following places and time in each: Blue Rock, Ohio, 5 years; Park City, Pa., 5 years; St. Joe, Pa., 2 years; and Sherman county, Nebraska, 7 years. She furnishes no record of any preparatory study of medicine in any office or school, but in her work here she showed evidence of quite a little experience. She was a woman of good general ability and showed herself much more expert in handling cases than in getting them. My most vivid recollection of her, is seeing her drive through the streets of Ainsworth in a phaeton buggy drawn by a little spotted pony with a spotted pony colt tied to one shaft of the buggy.

Dr. David W. Beattie, located in Ainsworth for the practice of medicine in the fall of 1883 and filed with the county clerk the following information: My place of birth is Wisconsin, I am 25 years of age, and have practiced medicine for a period of three years. From January 1st, 1879 to 1881 at Strawberry Lake, Michigan. In Brown county for one year. I have studied medicine in the following places: Nebraska Pharmaceutical Society of Lincoln, Nebraska, and two courses of lectures in the Department of Medicine and Surgery of the University of Michigan. Dr. Beattie left Ainsworth to locate at Norden, Nebraska, August 1884, where he remained for two or three years. Later he attended some middle western medical school and after graduation located at Neligh, Nebr., and built up quite a practice, where he remained until the time of his death some eight or ten years ago.

Dr. James A. Kennaston—I am unable to get the exact date when Dr. Kennaston came to Brown county, but I think it was the spring or summer of 1883. Dr. Kennaston settled on a homestead on Bone creek about 12 miles northeast of Ainsworth. He furnished the following record to the county clerk: I was born at Cabel, Caledonia county, Vermont, my age is 58. I have practiced medicine for twenty-three years. Powsheik and Jasper counties, Iowa, one year; Cass county, Nebraska, 15 years; Marion, Lucas and Warren county, Iowa, one year. Studied medicine 3 years with Dr. A. Beck in Palmyra, Warren county, Iowa. Dr. Kennaston was a man of many callings. He was a doctor, a lawyer, a preacher and no mean politician, as he proved by running for, and being elected County Judge of Brown county in the year of 1886. He held the office, I think, but one term during which time his wife died. After his term of office had expired he disposed of his holdings in Brown county and went south where he married again and later died.

Dr. Herman P. McKnight located in Long Pine, Nebr., in August, 1883, and soon took his place as one of the leading citizens, not only of Long Pine, but of the whole county. Before coming to Long

Pine, Dr. McKnight had practiced 2 years in Iowa besides having quite an experience as assistant in an army hospital, which well fitted him for general practice and surgery. The doctor's leaning was always toward surgery, but lack of hospital facilities and competent assistants prevented him from going extensively into that branch of the profession, for which he was quite well fitted. At the time of the Indian uprising in the west and the battle of Wounded Knee, on account of his previous army experience he was called to the agency 25 miles north of Rushville, where he arrived the next day after the battle. On his arrival he found more than one hundred badly wounded Indians crowded into a church at the agency. The Indians objected strenuously to any surgery so the best they could do was to dress their wounds as aseptically as possible, and leave them to their fate. After disposing of the wounded Indians he went out with two troops of cavalry to look over the battle field, where they remained over night, and the doctor picked up several relics, among them the war shirt of Big Foot which he stripped from his dead body as he lay upon the battle field. Dr. McKnight was a graduate of the College of Physicians and Surgeons of Keokuk, Iowa. He remained in Long Pine until October, 1910, when he disposed of his holdings there and went to Old Mexico, here he remained for about one year, returning to Omaha in 1916. He is now practicing his profession at Virginia, Nebr.

Dr. Fred August Hoffmeister came to Ainsworth in the year 1883 in company with a druggist, George Bryson. Together they established a drugstore on Second street, in the building now occupied by the Cozy Cafe, and the doctor began the practice of medicine. According to a record filed with the county clerk and which is a copy of the doctor's filing in Gage county, Dr. Hoffmeister was born in Holzen, Germany, and was a medical graduate of the Georgia Augusta University of Goettingen, Germany. Before coming to America the doctor had practiced medicine one year at Escher Shausen, Germany; one year at Magdeburg, Germany, and since coming to America, and prior to coming to Ainsworth, one and one half years at Charleston and Odell, Nebr. Dr. Hoffmeister was a bright, energetic, well educated young German, who spoke with a French accent and never failed to sound the letter Z in any combination when such an accent was possible. In the early years here he was a familiar sight upon the roads around Ainsworth, driving "Ze Fly" a mouse colored broncho, with a wild horse disposition, hitched to a two wheeled car and going like the wind, for "Ze Fly" could go.

Dr. Hoffmeister along about 1886 or 1887 sold out his drugstore here and gave up practice to move to Imperial, Chase county, where he still resides. He soon became one of the leading citizens of Chase county and turned his attention largely to politics in which he was successful as attested by the number of times he has served his district in the state legislature. He died February 22, 1931, age 77 years, at Imperial.

Dr. Emerson J. Austin—According to a statement filed with the county clerk on September 15, 1886, this man must have located in Brown county in 1881. He says in this statement he was born in Rochester, New York, and that he is 47 years old. He further states that his place of business is Ainsworth, Nebr., which the writer feels himself qualified to brand as not true, no such man ever practiced medicine in Ainsworth, Nebr. He further declares that he has practiced medicine in the counties of Lancaster and York, Nebr., for 12 years and in Brown county, Nebr., for 5 years. He makes no statement of any preparation to practice medicine. The facts are a man who called himself Doc. Austine did live in Brown county. He was located on the south side of the Niobrara river somewhere near the mouth of Plum creek. He owned a yoke of red bulls and earned a precarious living by hauling wood and posts to Ainsworth. He may have done some practice among his neighbors along the river, but very little I am sure. He left Brown county about 1890. Driving through Orchard, Nebr., in the spring of 1892, I saw him sitting in the shade of a little building on which was a sign reading "Dr. Austin."

Dr. Allen A. Webster. The following record is taken from the Madison county physicians record and was filed in Brown county, May 16th, 1884.

I was born in Monroe county, N. Y. My age is 49 years, I have practiced medicine for 18 years. From 1860 to 1878 at Fremont, Stuben county, Indiana. In Madison county, Nebr., two years. He makes no claim of any preparation for the practice of medicine. As I remember it, this man located in Long Pine along about 1884 or 1885, where he held forth as a lawyer, a doctor and a preacher, and seemed to be about as proficient in one as the other. He was the proverbial "Jack of all trades" and master of none. He later moved to Springview and from there to Mills, Nebr., where he died at an advanced age.

Dr. George O. Remy: (writer of this history) arrived in Ainsworth, Nebr., June 24, 1884, equipped with a wife, two children, a daughter and a son, a few household articles, and ten dollars in the currency of the realm. The money was long since dissipated, the household articles are worn to shreds, my children have married and left the proverbial nest, but thanks to a kind providence I have my wife yet. A little old and a bit run down at the heel, it is true, but still able to perform the duties of a housewife much better than many who boast a later generation and time. We were met at the depot on our arrival by a brother-in-law, W. H. Herring, and taken to his home, two and one-half miles northeast of Ainsworth—I was raised in a timber country where you could not see a mile in any direction. The next morning I was standing on a little porch looking off over that beautiful verdant prairie toward the Niobrara river, when Henry asked: "What do you think of it Doc?" I answered: "It is the most beautiful thing I have ever seen," and I have never changed my mind. To me, it is still the most beautiful country I have ever seen. I was surely ignorant of conditions in the west and the whole heartedness of its people, and so was afraid to locate in Ainsworth and bring my family to live in town for fear that before I got to making any money we would all starve to death in a heap, so I used my only ten dollars to file on a forty acre tract of government land lying along the north side of my brother-in-law's homestead, which was so poor that no one else would have it. Then I began wondering where money was to come from to build a shack for the family to live in. It got noised around that I was a doctor and would locate in Ainsworth. One day when riding into town with my brother-in-law a man came out and stopped us and inquired if I was the doctor. I plead guilty without a blush. He then asked me to come in and see his little girl, who was very sick. I examined the child and decided it was a case I could handle successfully, and as evidence that prognosis at least was correct, I wish to state that this first Nebraska patient is still alive and is one of Ainsworth's most prominent society women. This proved to be a cash customer and the fee was sufficient to pay about half of the cost for material to build my claim shanty, the other half I bought on credit. My brother-in-law and myself acted as both architects and builders of this 12x14 house, which we soon completed and had the family located. The family established where they could be cared for I found an office in town where I waited for business. But I did not have long to wait. There was business here and the people gave me a try at it, and soon I was driving day and night over strange trails, but I got little cash money and what I did get had to go to pay living bills, so at the end of a month, nothwithstanding I had worked hard, I was no better off than at the beginning. At this time I enjoyed my first real insight into the western spirit. One day my first patron came to me and inquired: "Have you seen that little running horse they have for sale down at 'Joe's' barn"? I answered that I had. "Let's go down and look him over," he said, which we did. After looking him over he asked: "Do you think he is worth the $100.00 they are asking for him." I replied: "He would be well worth that to me." Then he surprised me, for I knew that he knew I had no money, by saying, "Then why don't you buy him?" I replied, "Because I haven't got the $100.00." He replied: "But I have, you buy him and I will pay for him and you can pay me back in small sums as you have it to spare, you can never get ahead paying out all your cash money for livery hire." Needless to say I bought him, "Old Dick" a wonderful horse which I rode and drove thousands of miles before he dropped by the way side, I have never forgotten him and his faithful service, or this man who out of the kindness of his heart bought him for an almost total stranger.

Before beginning practice in Ainsworth I registered with the county clerk the following facts: I was born in Bartholomew county, Indiana, and am 33 years of age. I am a graduate of the Ohio Medical college, located at Cincinnati, Ohio. I have been engaged in the practice of medicine for the term of seven years as follows: Two years at Waymousville, Indiana; two years at Holman Station, Indiana, and three years at Horstville, Indiana. Since locating in Brown county in 1884, I have resided and practiced here continuously except for the nine year period between 1892 and 1901 when I became quite a rover. During this time I practiced medicine in Pender, Nebr., two years; Norfolk, Nebr., two years; spent two years on the road as a specialty salesman, and three years at Craig, Nebr. I left Ainsworth on account of the drought, but with the avowed intention of returning in a few years, which avowal I made good in 1901. I found good people in all these different locations, but none which appealed to me as the people of Ainsworth and Brown county have always appealed. My business in Brown county has been very much like the seasons in this part of Nebraska, which are very varied. Some years have been good and some have been bad, but through it all I have always loved Brown county and Brown county people. You will notice that I have devoted more space to Dr. Remy than any of the other pioneer doctors of Brown county. That is, perhaps, because I knew him better, but, equally perhaps, just because I always liked to talk about myself.

Dr. Thomas J. Farleigh. On March 30, 1885, Dr. Farleigh filed with the county clerk of Brown county the following record: I was born at Rochester, New York, my age is thirty-five. My place of residence and business is Johnstown, Nebr. I am a graduate of the University College of the City of New York. Date of graduation February, 1875.

Dr. Farleigh, in partnership with his sister-in-law, Miss Diamond, successfully operated a drugstore in Johnstown for many years. The doctor was a man of pleasing personality and a good man to have as a friend. He was well grounded in his profession and always enjoyed a good practice. He closed out his business in Johnstown in the early years of 1900 and moved to Oregon where he later died.

Dr. Ira G. Stone filed with the county clerk of Brown county on April 20, 1885, a copy of his filing in Dodge county, Nebr., as follows: My age is 30 years. I was born at Washington, Iowa. I have practiced for the four years last past. In Wahoo, Saunders county, from the spring of 1880. I attended lectures at Rush Medical College of Chicago, Ill., the years of 1879 and 1880. Dr. Stone came to Ainsworth and entered into practice in partnership with Doctor Fred Hoffmeister in the spring of 1885. He was a young man of much native ability, but of little practical experience. Dr. Stone only remained in Ainsworth about one year and left, I believe, to finish out his medical education, after which, I have heard, he located in Lincoln, Nebr.

Dr. William E. Bridgeman, a graduate of the College of Physician and Surgeons of Keokuk, Iowa, came to Brown county in the year of 1885. He first located on a piece of rough timberland along Bone creek, where he cut logs and built him a log cabin, with the intention of filing on the land. He soon thought better of this and tore down the cabin, the logs of which his brother-in-law, Charles Swett, hauled for him to the northeast part of Ainsworth where Bridgeman bought a lot and again erected his log cabin and established his residence. Bridgeman never put in a down town office in Ainsworth, but did whatever business came his way from the log cabin. Tiring, after a few months, of the effort to establish a business in Ainsworth, he moved with his family to Springview, Nebr., where he lived for a number of years, and was active in all the business enterprizes of the town. He later moved to South Dakota and engaged in the land business where we lose sight of him.

Dr. George W. Lambley came to Brown county January 22, 1885, and located at Meadville, Nebr., where he remained for about one year going from there to Springview, Nebr. Dr. Lambley remained in Springview for two years, then moved to Ainsworth to locate permanently in the spring of 1888. In his registration filed with the county clerk of Brown county June 10, 1885, Dr. Lambley makes the following statement: I was born in Mercer county, Ill., and my age is 24 years. I am a graduate of the College of Physicians and Surgeons located at Keokuk, Iowa, and have practiced medicine in the following places: Rio, Ill., for two years; Taylor county, Iowa, one and one-half years, and Meadville, Nebr., six months. After maintaining a residence in Ainsworth for a number of years Dr. Lambley moved with his family to a farm two miles northwest of Ainsworth, where he engaged in the business of breeding thoroughbred hogs and cattle, and drove back and forth between the farm and town to carry on his business of practice of medicine. For the last 10 or 12 years he has maintained a residence and office in Ainsworth, but he still keeps up the business of farming and stock raising by means of hired help.

Dr. Edwin M. Moor made the following filing with the county clerk on the 12th day of September, 1885: I was born at Clarion, Pa., and am 25 years of age. I am a graduate of the College of Physicians and Surgeons of Baltimore, Md., and my place of business is Long Pine, Nebr. I have practiced medicine for two years at Clarion, Clarion county, Pa. Dr. Moor came early but was easily discouraged and moved on looking for greener fields.

Dr. Lindsey K. Tainter in his filing for practice states: I was born at Fairbanks, Iowa, and am 26 years of age. I am a graduate of Mission Medical College of St. Louis, Mo., and have practiced medicine for two and one-half years. My present place of business is Long Pine, Nebr. Dr. Tainter only remained in Long Pine for a few months. As the writer remembers him he was quite an able young man.

Dr. John W. Bracket filed for record on June 14, 1886, the following record: I was born at Alma, Wis., and I am 21 years of age. My place of business is Ainsworth, Nebr. I have practiced medicine one month at Eau Clare, Wis., and one month at Ainsworth, Nebr. I graduated from Rush Medical College February 22, 1886. Dr. Bracket came to Ainsworth with high hopes and great expectations, but, like many another who has started into the practice of medicine believing that through his superior education and skill he will be able to run all disease germs to their lair and then exterminate the whole pack, soon became discouraged and moved on to other fields where. we hope he gained experience to match his superior education, and is today, somewhere, doing good work in the field of medicine.

Dr. Hosea J. White filed on December 3, 1887, the following record: I was born in Jefferson county, New York, and am 33 years of age. My place of residence is Long Pine, Nebr. I am a graduate of the College of Physicians and Surgeons, Keokuk, Iowa. I have practiced medicine four years. Three years in Rubens, Kansas, and one year in Bostwick, Nebr.

Dr. H. J. White located in Long Pine, Nebr., in October of 1888, but moved from Long Pine to Valentine in 1889 where he remained for but one year, moving to Bassett, Nebr., in 1890, where he remained until 1905 when he sold out his business there and moved to Springview to enter into partnership with Dr. Evans. He remained in Springview for about three years when he closed out his business there and moved with his family to Ainsworth, Nebr., in March, 1909, where he continued in the practice of medicine until the time of his death which occurred August 12, 1927. He is buried in Park cemetery on the highway 2 miles east of Ainsworth, Nebr. He was the first doctor in this part of Nebraska to drive an automobile. His first was a little buck board and second a high wheeled Oldsmobile. The doctor was a great auto enthusiast and I think during his later years drove about every kind of light machine made. Dr. White was naturally a great sportsman, enjoying all kinds of sports. In his earlier days he was as enthusiastic over a horse as he was later over an automobile and of all sports I think he enjoyed a horse race a little bit the best. The writer knew Dr. White for a great many years, and, though born and reared in the east, he early became a thorough westerner, and no kinder hearted man ever lived in any community. He practiced medicine not for the dollars and cents he could make, but because he loved his fellow man. And no call was ever refused because there was not money to pay a fee or because the weather was too cold and inclement.

Dr. William B. Ely. Born in Connecticut on March 5th, 1842. Spent his boyhood days as a carriage painter's apprentice. He became interested in music at an early age and before he was twenty-one he taught both pipe-organ and piano music in Canadaigua Female Seminary at Canadiagua, New York. He followed the musical profession until 1878, when he was graduated from the Medical College of the University of Michigan at Ann Arbor. He practiced for two years at Marion, N. Y.; eight years at Penfield, N. Y.; two years at Newark, N. J., and moved to Ainsworth, Nebraska, in 1889, where he remained until 1901, when he moved to University place, Nebraska. He staid in University Place until 1908, when he lost his health hy reason of a severe attack of the grip. He later returned to Ainsworth, but not again to resume the practice of medicine, although he at all times kept himself well posted on all of the new developments in medicine and surgery. In 1894 he was president of the Nebraska State Medical Society and during his entire career he was an enthusiastic supporter of that organization as well as of the local medical societies. He died on June 23, 1921, at Ainsworth suffering for three days from an attack of angina pectoris.

Dr. Edward Payson Green, the only homeopathic doctor to come into this territory, filed his credentials with the county clerk of Brown county on the 24th day of March, 1888. He states that he was born at Beloit, Wisconsin, that he is 28 years of age, and, that he is a graduate of the Homeopathic Department of Iowa State University, also that he is a member of the Hahneman Medical Society, Iowa City, Iowa, and that his residence is Long Pine, Nebr. The writer was in Long Pine quite frequently in 1888 but has no recollection of Dr. Edward Payson Green, homeopathic physician, so concludes that his residence in the Pine was hrief, and express the hope that, like the Hahneman School of medicine he has changed to something more rational than Similia Similibus Curanter.

Dr. James Scott filed with the county clerk of Brown county on the 5th day of September, 1889, the following record: I was born in the state of Ohio and my residence is now Long Pine, Nebr. I am a graduate of the Medical Department of the State University of Iowa and have practiced medicine in the state of Iowa for the period of 18 years. The writer remembers Dr. James Scott well. He was a fine upstanding man and a good doctor and would have been an addition to our ranks, both medically and socially, had he not retained in his cosmos too much of the eastern spirit to ever become westernized. He only remained a few months and then departed to return to a more civilized community.

Dr. Flavius J. Beck, a Hoosier, filed with the county clerk of Brown county on May 6th, 1889, the following record: I was born at Newburn, Indiana, and have practiced medicine at Hartsville, Ind., from spring of 1883 to spring of 1889 with Dr. Wm. H. Beck. I attended Ohio Medical College the winter of 1880 and 1881. I am now located in Ainsworth and practicing with Dr. G. O. Remy. Dr. Beck was another who could not become accustomed to the ways of the west. He returned to Hartsville the fall of 1889 where he practiced medicine successfully until about five years ago when he moved to Columbus, Ind., where he still resides and practices.

So ends, so far as I have been able to gather, the list of doctors who, through the eighties, fought it out in Brown county with prairie fires, coyotes and blizzards, all of which were plentiful at that time. The climate of north Nebraska is much milder now and storms neither so bad or so frequent as in those early days, perhaps owing to the many groves of trees which now dot, what was then, a treeless expanse of level prairie. Quite a number of these early doctors, as the record shows, were not graduates of any school of medicine, but most all of them had had experience in some other place or places before coming to Brown county and their work here proved that this experience was not in vain. Not every man who boasts a diploma is educated. Education is something more than a college degree. It is training and experience, no matter when or how attained, and this is not only true in medicine but in every walk of life. I have tried to he just and impartial in my dealings with the records of these early Brown county doctors. Most of them have now passed on to receive the doctor's reward, whatever and wherever that is, and are not here to defend their reputations. Their places have been taken by younger men, with better college education, but will they serve the people more faithfully, more honestly and to better purpose than did these early pioneers? Time will tell. I hope that at some future time one of these younger men may feel inspired to take up this history where I am leaving it and complete what I have so humbly begun.

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WHAT STATE MEDICINE IS AND THE ARGUMENTS FOR AND AGAINST

Frequent references are made to State Medicine, perhaps without any clear conception of what state medicine is. The American Medical Association defines state medicine to be any form of treatment, provided, conducted, controlled or subsidized by the federal or any state government, or municipality, except such service as is provided by the Army, Navy, or Public Health Service, and that which is necessary for the control of communicable disease, the treatment of mental disease, the treatment of the indigent sick, and such other services as may be approved by and administered under the direction of or by a local county medical society of which it is a component part.

It aims to provide adequate medical care for persons not otherwise able to command it. As carried out in a number of European countries all aim to provide a method of distributing the economic load of medical care by requiring a combination of contributions from the insured persons and employers, compulsory savings and indirect taxation. The government administers the fund thus accumulated and employs the physicians. In England for instance it is called the Panel system and physicians practicing under the system are called panel physicians. They get about $2,000 per year and are assigned to care for approximately 1,500 persons. All persons whose incomes are less then than 250 pounds a year are compelled to contribute to this fund and are eligible for treatment under the panel system.

Arguments *favoring* state medicine are that there is need for improvement of our existing system of medical service; that there is a large amount of unnecessary sickness; that it is the cause and result of much poverty, crime and delinquency; the prevention and cure of illness have by no means kept up with the advancement of medicine in the last fifty years; the inability of all but the wealthy to pay the cost of medical service; organization of medicine is needed to fully serve the needs of society; many rural communities are entirely without medical service and others are not adequately supplied; many people in cities find it difficult to get a good physician in case of need; many doctors cannot afford the expensive equipment now necessary for all-round practice in the most up-to-date manner; some doctors are more interested in the fee than the patient and give insufficient examination; the cost of medical care has assumed alarming proportions; doctors are not fairly paid under the present system; only a few earn large incomes; the efforts made by medical men to remedy the matter are insufficient.

Control of medicine by the state would remedy the matter; state medicine can reduce the cost of medical education; insure adequate financial compensation for physicians; raise the general standard of medical practice; remove competition; provide access to needed equipment.

Arguments *against* state medicine are that the mechanization of medicine resulting from state control would be a menace to sound medical practice; would interfere with the right of patient to select his physician; would interfere with intimate personal relationship of doctor and patient necessary for complete relief from patient's ills; it would interfere with the work of the general practitioner; would mean inadequate compensation for physicians; would lower standards of practice; patients would be moved along too fast; the doctor would tend to get into a routine, losing initiative and individuality; would tend to throttle medical progress; socialization of medicine is against nature's law of the survival of the fittest.

State medicine has not been successful in other countries where it has been tried; it makes people morbidly interested in their physical progress; they demand time and attention of physicians unnecessarily; physicians do not favor it.

The Incoming President, Dr. Lucien Stark

DR. LUCIEN STARK

Dr. Lucien Stark, Norfolk, incoming president of the Nebraska State Medical Association, is a native son of Nebraska, having been born at Aurora, Hamilton county, January 10, 1882, son of Mr. and Mrs. William L. Stark. He attended the public schools in his home town until 1896, when his father was elected to the National House of Representatives and the family moved to Washington the following year, where he attended public school for a time. Fired by military enthusiasm incident to the breaking out of the Spanish-American war, he enlisted at 16 in the Navy and served 15 months on the dispatch boat "Fern" plying mostly between the Caribbean and the Potomac. Coming out of the navy a man, in spite of his years, he decided to study medicine and was graduated from Creighton Medical College, in 1903.

For a time he was an assistant to the late Dr. C. C. Allison, Omaha surgeon. His first location was at Hyannis, where he practiced two years, and where he was married. He later located at Henderson and remained there in practice five years. He then spent about two years in postgraduate work in New York City, Baltimore, Philadelphia and Chicago, after which he located at Hartington and remained there in practice until at the outbreak of the World war, when he enlisted in the medical corps.

He was assigned to Fort Riley as a lieutenant and in September of 1917 was made a member of the permanent staff of that camp and in 1918, after being promoted to a captaincy, was made the instructor in charge of all strictly military subjects. Upon his return to civil life Dr. Stark relocated at Hartington where he remained until November of 1925. At that time he went to Florida intending to remain there but reconsidered and came to Asheville, North Carolina, where he spent six months at the Von Ruck institute for tuberculer research. Upon returning to Nebraska from Asheville he located in Norfolk in the fall of 1926.

Dr. Stark was a member of the state board of health from 1915 until he entered the army in 1917. He has been an active member of the Nebraska State Medical Association since graduation and was elected president-elect at the last annual meeting and will succeed to the presidency at the forthcoming annual meeting.

Dr. and Mrs. Stark have one son, a Junior in the University of Nebraska.

McCLANAHAN MEMORIAL LECTURE

Doctor Isaac A. Abt, Chairman of the Department of Pediatrics and Professor of Diseases of Children at Northwestern University, addressed the faculty and students of the University of Nebraska College of Medicine Wednesday evening, April 1st, at eight o'clock in the North Ampitheater on the "Progess of Pediatrics During the Past One Hundred Years." This lecture was a memorial to the late Dr. H. M. McClanahan, former Chairman of the Pediatric Department of the College of Medicine and was under the auspices of the Iota Chapter of the Phi Rho Sigma Fraternity of this School, being the first of a series of annual lectures this fraternity is sponsoring.

Dr. Abt is also attending physician at Sarah Morris Children's Hospital, Chicago, Consulting Physician of Providence Hospital, Chicago Home for the Friendless and Chicago Orphan Asylum and author of several books on diseases of children.

Dr. Abt was the guest of Dr. and Mrs. J. A. Henske while in Omaha and was also entertained by the Pediatric Department of the Medical College.

THE ANNUAL MEETING

The annual meeting to be held at the Fontenelle hotel, Omaha, is but a few days in the future—May 12, 13, 14. The program published in this number promises more than the usual feast of good things in medicine. This is the annual postgraduate course prepared for your delectation and you should make the most of it. The feast is ready, awaiting the guests.

Never has organized medicine meant so much to the profession!

POSTGRADUATE COURSE UNIVERSITY COLLEGE OF MEDICINE

The University of Nebraska College of Medicine will offer a week's Post Graduate Course from May fourth to May eleventh, inclusive. This will be the week preceding the annual meeting of the Nebraska State Medical Association in Omaha, and it should be convenient for you to attend that meeting May twelfth, thirteenth, and fourteenth.

The course this year will be offered under the auspices of the Department of Surgery, and will be confined largely to practical work in the wards and clinics. The major interest will center around general surgery, including gynecology; orthopedics, including fractures; urologic diagnosis and treatment; ophthalmology, and otorhinolaryngology.

The laboratories, especially the Department of Anatomy, Pathology and Bacteriology, will be available for use at all times, likewise the library. The fee for this course will be ten dollars, and the number accepted will be limited to thirty. Unless ten have registered by April fifteenth the course will be withdrawn. Address all communications to the Dean's Office.

THE WHITE HOUSE CONFERENCE ON CHILD WELFARE AND PROTECTION

In response to the call of President Hoover eleven hundred men and women engaged to make a comprehensive survey of the problems related to child welfare and protection. Quoting from *Survey*—"That meeting will long be remembered as having assembled and expressed a greater body of fact, with its appropriate interpretation and practical application for the individual child than could have been so related to our needs at any previous time in our history." The survey represents a cross-section of expert thought and endeavor in child welfare. It is estimated that the published proceedings will comprise twenty-five volumes of five hundred pages each—truly a modern romance of science. Engaged in this survey were sociologists, psychologists, political economists, educators, instructors in the basic sciences, pediatricians, obstetricians, officials in institutional nursing, field nursing, Red Cross and public health. Sixteen months were devoted to the gathering of the material at an expense of a half million dollars. Never before has there been such a gigantic undertaking of like nature and it remains to be seen to what use this material will be directed.

It was a study of the children of the nation and the varied forces influencing them. Its object is to give to the child the fullest measure of development and opportunity. The results will depend upon the responsiveness and cooperation of parents, teachers, doctors and public.

The Conference was held in four sections.

- Section 1. Medical Service.
  - A. Growth and Development.
  - B. Prenatal and Maternal Care.
  - C. Medical Care of Children.
- Section II. Public Health Service and Administration.
  - A. Public Health Organizations.
  - B. Communicable Disease Control.
  - C. Milk Production and Control.
- Section III. Education and Training.
  - A. Family and Parent Education.
  - B. Infant and Pre-school Child.
  - C. The School Child.
  - D. Vocational Guidance and Child Labor.
  - E. Recreation and Physical Education.
  - F. Special Classes—Handicapped Child.
  - G. Youth Outside Home and School.
- Section IV. The Handicapped Child.
  Prevention—Maintenance—Protection.
  - A. National, State, Local Organizations.
  - B. Physically and Mentally Handicapped.
  - C. Socially Handicapped.
    Dependency, Neglect, Delinquency.

In subsequent numbers of the *Journal* a resume of the reports on some of the above topics will appear.

—Palmer Findley, Omaha.

NEBRASKA ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

The Eighteenth Annual Meeting of the Nebraska Academy of Ophthalmology and Oto-Laryngology will be held in Omaha the night of May 11, 1931. Dr. Franz Hasslinger of Vienna, Austria, will be the guest of honor and will address the society on the subject of, "Diagnosis and Treatment of Bronchial Diseases With the Bronchoscope."

All members of the Nebraska State Medical Association interested in the subject are invited to attend.

COMMUNITY POSTGRADUATE COURSES

What about Post Graduate courses in General Medicine, Pediatrics, Obstetrics, or Surgical Diagnosis? If you could attend one such class a week in your vicinity, would you do it? If interested call your county medical secretary today. He is informed.

The plan is to co-operate with the Extension Departments of the Universities of Oklahoma and Kansas, where these P. G. circuit courses have been successfully sent out for six years.

Through this organization we can get experienced teachers in these different lines, who will come to you one day a week for a course of ten or twelve weeks.

Those doctors in southern Nebraska who have taken courses offered in northern Kansas recommend the work. See any of them. Watch for more information at the state meeting, or better still see your own county medical secretary, who is asked to record your desire now in order to present the demand for the work to the State Medical Council.

—Committee on Medical Education.

A GLIMPSE AT THE WORK OF THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

This week in Chicago (February 16-18), the Council on Medical Education and Hospitals of the American Medical Association kindled the fires of progress and promotion under the world's greatest smelting pot of medical education. Each year a new lot of medical education needs and circumstances are thrown into this great caldron of consideration, there to simmer and bubble, with the hope and the aim that when the brew is finished the end product will represent the judgment and wisdom of the superior medical brains of the land. It is interesting indeed to watch the progress of these meetings. Year after year the pendulum bobs about, touching this high point and that urgent need, yet at no time does it enter into the scientific discussion of disease, which, of course, is the primary and fundamental job of the great American Medical Association.

Being sent as a delegate to this conference by my state medical association, I naturally feel a sense of responsibility in the way of a contact man. I would like therefore at this time to call your attention to the detailed program in your *A. M. A. Journal,* and refer here very briefly to some of the main issues under discussion at the Congress. In years gone by, you will recall that this Council busied itself with such important problems as the standardization of medical colleges, and their curricula. All will remember how the large number of medical colleges has been greatly reduced and how the standards have increased until now almost none but Class-A schools exist. You will recall how the Council has busied itself with the standardization of hospitals for the better care of the sick and injured; for the training of internes; for the improvement of training schools for nurses; for the standardization of clinical and x-ray laboratories; how last year there was presented for consideration the very urgent question of the cost of the care of the sick. This year these issues have passed by like water through the millstream. They have scattered themselves out over the United States and have taken root and are being cultivated by our one hundred fifty thousand doctors and their allied workers. This year a different set of problems presented themselves for consideration. being akin to those in years gone by only in that they are always related to (a) the better medical education for our students; (b) to further improvement of our hospitals and their ability to serve the sick and injured; and (c) to a multiplicity of contacts with the public at large, to make medical services continue to be a general welfare uplift.

These congresses have grown until they are no longer a single session affair, but during much of the time there is a "three ring circus" in session. One delegate cannot cover the entire program. This preliminary report will be followed by a detailed report at the meeting of the State Medical Association.

SOME OF THE HIGH LIGHTS OF THIS YEAR'S PROGRAM

Secretary of the Interior, Dr. Ray Lyman Wilber. opened the meeting on the subject of Mental Hygiene, as a national problem. He emphasized how the emotional rather than the intellectual often governs the solution of problems, both in private and national life.

In his conclusions he stressed the importance of the better training of medical men and women who are to care for the mental delinquents. This applies to cases showing early delinquency as well as late mental breaks. He stressed the need of internship services in our hospitals for insane, where also more autopsy study and research work should be carried on, all of this leading up to the training of more doctors and specialists in nervous and mental disease. He urged the importance of educating the public to recognize mental and nervous diseases as a special and growing class of patients. He thought that improvement in this line would come along medical avenues and not along legal lines.

In other parts of the program this year much was said about mental hygiene and the teaching of psychiatry. Its application pertains not only to the training of medical students, to institutions for the care of mental and nervous patients, to community clinics for mental hygiene and to child guidance clinics, but also to the public in general. A feeling that this work was not being done sufficiently well, was prevalent throughout the program of the Congress.

Always at these Congresses there appear the routine problems in medical education which pertain to the medical schools. Pediatrics came in for its turn this year. Again we heard about the better training of medical men as general practitioners and of the new ways that this work was being done in departments set up in the medical schools to simulate the general practitioner's office in the country, as well as by contact of the student with general practitioner preceptors.

Graduate medicine came in for discussion also. This year it took on the aspect of research graduate medicine as well as postgraduate courses which might be given at the medical school, or as extension courses for rural physicians. Many states have tried to extend postgraduate courses to or near to the home of the practitioner. Something more definite is being accomplished now in this line, and your committee on Medical Education hopes to have something more definite to propose to the Council of the State Medical Association this year.

The Federation of State Medical Boards of the United States has its session at this Congress also. I found that the Basic Science Law was more popular this year than it had been before. Dr. H. J. Lehnhoff, of Lincoln, was again there to defend the merits of the Basic Science Law. He was also on the program with a paper entitled, "Non-Medical Directors of State Departments of Public Welfare and License".

In the past it has often been supposed that when medical schools were all of one standard, or at least of one high-grade standard, that evidence of graduation from any of them should entitle the holder to a license in any state and general reciprocity. This would do away very largely with the work of State Boards of Licensure, as well as the National Board. This year this proposition was discussed again and perhaps one might say, with a little increased favor. The various legal phases of licensing practitioners as well as registering and re-registering them, were considered.

The American Conference on Hospital Service convenes at this Congress also. This year this conference dealt especially with the care of the convalescent case in the United States. It also had a joint conference with the Council on Physical Therapy, at which session the various phases of teaching and applying physical therapy, occupational therapy, and rehabilitation processes were discussed.

For the first time, this year at the Congress, there was a display of exhibits. I think these exhibits were presented to this group of medical educators for the purpose of teaching them how and what to present as exhibits for the purpose of medical education. The method was very practical and consisted of easily transportable booths of small size but with a maximum display wall surface. They were not overly attractive but at least pleasing to the eye, and yet not of a kind that would detract from the exhibit. The exhibits on these wall spaces were of a statistical medical education, teaching kind and were displayed in as graphic a manner as possible. There were also automatic reflectoscopes and motion picture displays on daylight screens, designed to catch the eye of the observer and hold it because of the constant changing exhibit. In some of the booths they had occupational and rehabilitation activities in process and the weaving and the benchwork was being done under the eye of the observer by a patient. Of course the exhibits were of a nature to have interest for this particular group, and would not apply when information was being put across to a different crowd, as for example at the Nebraska State Fair, where we are attempting to teach medical health education to laymen. The same methods would have the same attractiveness, but the materials exhibited would have to be fitted to the needs of the particular crowd.

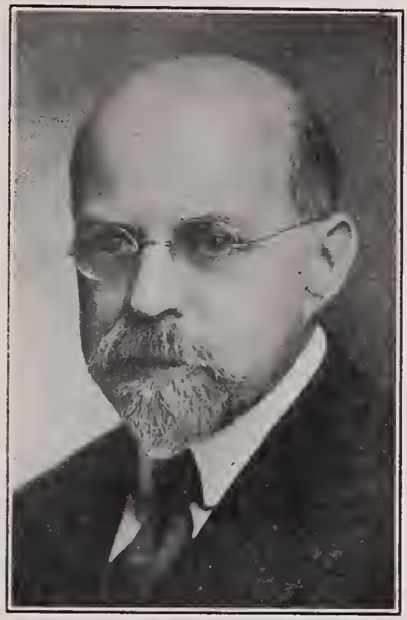
All in all, the Congress this year was its usual success. A more detailed report will be given either to the Council or at the general assembly of the State Medical Association meeting.

—J. S. Welch, Lincoln.

Maybe the old-time doctor didn't know, but he didn't soak you $10 for sending you to somebody who did.—Brooklyn Times.

DR. BENJAMIN F. BAILEY CELEBRATES FIFTY YEARS OF PROFESSIONAL LIFE

Although we who know him well, look upon Dr. Benjamin F. Bailey as a youngster, which he in fact is, physically, he recently celebrated the fiftieth year of his graduation, from Hahneman Medical College, Philadelphia, March 10, last.



BENJAMIN F. BAILEY, M. D.

The first event was an informal one participated in by the staff and alumni of Green Gables Sanitorium and a few intimate friends, but an event for all that. The officers of the Lancaster County Medical society also had some ideas about the event, so a banquet was arranged at the University club, Lincoln, April 15, which was attended by nearly one hundred members of the society and out of town guests. Dr. S. E. Cook, president of the society, presided as toastmaster and Dr. F. A. Long, Dr. H. E. Potter, Dr. K. S. J. Hohlen and Dr. A. R. Mitchell spoke of Doctor Bailey and his work and his worth to the community and state as a physician and citizen. Doctor Bailey responded happily with some feeling.

Doctor Bailey was born at Littleton, N. H., in 1860, graduated in 1881 as above stated, at the age of twenty-one, practiced at Wareham, Mass., and Manchester, N. H., came to Nebraska on account of failing health which he soon regained and has been a factor in the upbuilding of Lincoln and Nebraska for forty-five years and has been a constant and enthusiastic worker in the maintenance of the high standards of the medical profession. He was a member of the state board of health for twelve years and through those and subsequent years has helped in the development of the present medical laws. He has been no less interested in the civic betterment of Lincoln and has been an active worker in the Red Cross, Boy Scouts and Rotary. He has been president of the Lincoln Chamber of Commerce, is president of the Lincoln board of education, has been president of the Sons of the Revolution, is national president of the American Interprofessional institute and many years ago he was president of the American Institute of Homeopathy. He has been affiliated with the Nebraska State Medical Association for upward of thirty years and was president of this association in 1923, has been a member of the publication board since its organization in 1916, has been chairman of the legislative committee for many years and is at this time one of the Nebraska delegates to the American Medical Association.

Dr. Bailey opened Green Gables Sanitarium in 1901 and it has been a going concern from its inception and with improvements and additions it has grown to be one of the notable institutions of the country.

FIFTEENTH ANNUAL CLINICAL SESSION OF THE AMERICAN COLLEGE OF PHYSICIANS

This meeting was held in Baltimore, during the week of March 23rd to 28th, 1931, with a registration of about 1,500. Though the attendance was largely from the Eastern States, nevertheless there was an excellent representation from the Middle West, the Pacific Coast, Canada, and the Latin Countries to the South. Approximately twenty Fellows and Associates from Nebraska attended the meeting.

The General Sessions averaged an attendance of 700 to 800 people. There were seven of these General Sessions, at which fifty-one papers were presented; three of the sessions consisted of Symposia on the following subjects: Public Health; Endocrine Disorders, and Anemia. The following are a few clinical impressions gathered "hot off the griddle" from the lips of investigators who are at work first hand upon these questions:

There is a sort of discouragement in the air about the infallibility of skin tests in Allergy, such as hay fever, asthma, urticaria, eczema, migraine, epilepsy, irritable bladder, and irritable colon. More and more cases are being reported in which skin tests fail to react in cases definitely proved to be sensitive to given proteins, and others in which reactions are found, and the patient is proven not to suffer clinically from the proteins in question.

Allow more protein in nephritic diets. There is no clinical evidence that adequate amounts of protein are harmful to the kidney. A maintenance allowance of 1 gram of protein per kilogram of body weight to keep up nitrogen balance is absolutely indispensable to survival for the patient; and a somewhat larger allowance advisable for the best clinical progress.

Dr. F. A. Hartman of Buffalo reported beneficial effects of intense interest on Addison's Disease from "cortin", an extract of adrenal cortex prepared by him. The immense quantity of the substance needed and the difficulty of preparing it suggest that it will not be immediately available commercially.

"Agranulocytosis" is merely a severe form of a class of conditions termed granulopenias. It is originally a bone-marrow condition. The angina is secondary, due to failure of defensive reaction. The infection is frequently of assistance in stimulating leucocyte production; this suggests that treatment with foreign protein might be of help.

In the treatment of obesity, the caloric requirements of the patient on the basis of his ideal weight should be the guide for making up the diet. The basal metabolic rate is of assistance in determining whether or not thyroid therapy is advisable. If the basal metabolic weight is figured on the basis of the patient's ideal weight instead of his actual weight, most of these cases will be found to have a high rate, and ought not receive thyroid. Those who have a low rate on the basis of ideal weight will be benefited by thyroid.

The severity of diabetes is best estimated on the basis of the amount of insulin the patient can secrete. This can be found by measuring his carbohydrate balance: the amount ingested minus the amount excreted. As one unit of insulin metabolizes 2 grams of carbohydrates, the patient's own insulin can be computed.

On Wednesday evening, March 28th was held the Convocation, at which approximately 300 new Fellows and Associates were inducted into the organization. This is an unusually large number, and was the result of an ultimatum on the part of the Board of Governors to a number of Associates who had been unduly delaying their next step toward a Fellowship.

Thursday evening, March 29th, the annual banquet was held at the Lord Baltimore Hotel; and many distinguished medical men of the Western Hemisphere were present there. The toastmaster was Dr. Lewellys F. Barker, widely known as a polished gentleman and a learned scholar. The address of the evening was given by that grand old character in American medicine, Dr. William H. Welch, who possesses fellowships and honorary degrees from numerous American and European Colleges, is a leader of medical thought in America, a friend of Osler, and an excellent speaker. His wonderful brain is still functioning at the age of 80 years, as actively as it ever did.

The afternoon clinics, ward walks, and laboratory demonstrations were divided among the hospitals of the city. Naturally, Johns Hopkins Hospital, that backbone of classical American medicine, attracted the greatest number of visitors; but the six other prominent hospitals of the city were by no means neglected. The six blocks and thirty buildings of the Johns Hopkins Hospital, with all gradations from venerable early-Victorian piles to great, modern, up-to-date structures, were turned over bodily to the visitors. The maze of buildings and passages and corridors were all plainly marked, a key map was furnished, and students, nurses, and janitors one and all were ready to help visitors in every way they could. It was quite evident that the routine work of the hospital and medical school had been completely sidetracked for the benefit of the College.

On Saturday the meeting adjourned to Washington, and approximately a third of the attending visitors made the trip. Washington is about two hours' ride from Baltimore, and a clinical day was planned and set out for the members of the College in the various hospitals and government institutions of the city.

The President of the American College of Physicians for the coming year is Dr. S. Marx White, of Minneapolis. The next year's meeting will be held at San Francisco.

Dr. Warren Thompson, Omaha, and Dr. Harry E. Flansburg, Lincoln, were awarded fellowships in the College.

—Miles J. Breuer.

THE EDWIN SMITH SURGICAL PAPYRUS III

A Gaping Wound of the Head Perforating the Skull: "If thou examinest a man having a gaping wound of the head and perforating the skull; shouldst thou find him unable to look at his two shoulders and his breast and suffering with stiffness of the neck—thou shouldst say regarding him: One having a gaping wound in his head perforating the skull, while he suffers with stiffness of the neck. An ailment I will treat.

Now after thou hast stitched it, thou shouldst lay fresh meat upon his wound the first day. Thou shouldst not bind it. Thou shouldst treat it afterward with grease, honey, and lint every day until he recovers. Moor him to his mooring stakes until he recovers." (Case III).

Comment: By the last sentence is meant keeping him on his customary diet. Unable to look at his shoulders and his breast means not easy to look at his shoulders and breast.

PROCTOLOGIC HINT NO. VIII

Fissures usually are not cured by the local application of silver nitrate. It only irritates the lesion, and makes it more painful, and does not remove the pathology which is always present within the anal canal.

—L. E. Moon, Omaha.

Dear Reader:

The Journal and the Cooperative Medical Advertising Bureau of Chicago maintain a Service Department to answer inquiries from you about pharmaceuticals, surgical instruments and other manufactured products, such as soaps, clothing, automobiles, etc., which you may need in your home, office, sanitarium or hospital.

We invite and urge you to use this Service.

It is absolutely free to you.

The Cooperative Bureau is equipped with catalogs and price lists of manufacturers, and can supply you information by return mail.

Perhaps you want a certain kind of instrument which is not advertised in the Journal, and do not know where to secure it; or do not know where to obtain some automobile supplies you need. This Service Bureau will give you the information.

Whenever possible, the goods will be advertised in our pages; but if they are not, we urge you to ask the Journal about them, or write direct to the Cooperative Medical Advertising Bureau, 535 N. Dearborn St., Chicago, Illinois.

We want the Journal to servo you.

EDITORIAL PARAGRAPHS

Remember the date of the annual meeting, May 12, 13, 14, Fontenelle Hotel, Omaha.

The American Medical Association will hold its annual meeting at Philadelphia June 8-12.

The Omaha Obstetrical Society was organized March 4, by ten obstetricians of Omaha.

The Nebraska State Board medical examination will be given June 8-9 at the University Medical College, Omaha.

The annual meeting—the annual postgraduate course prepared for you and for me—is at hand. Let us say with one accord, "We will attend!"

The Committee on the Grading of Nursing Schools complains that six out of ten nurses graduated at present receive no practical experience in the nursing of contagious diseases.

A dedication banquet featured the opening of a new wing of the Evangelical Covenant hospital in Omaha, April 7. Dr. W. P. Wherry, Omaha, made the principal address on "Our Present Hospital".

Dr. Howard L. Updegraff, a native, and former practitioner, of Omaha, who is doing reconstructive surgery in Hollywood, has sent us a reprint of a case of Unilateral Progressive Hemihyperthrophy operated with pleasing results.

The *American Journal of Cancer* for January comes to us with 560 pages of reading matter on the cancer problem. It is a quarterly. It is endowed; therefore the subscription price is but five dollars per year. All progressive physicians will want it.

A cooperative clinic tour of Europe, sponsored by a number of state medical journals is being "worked up". This *Journal* has not joined in the cooperative scheme. We suspect some of our journalistic friends will learn something quite worth while by this "cooperation".

We have just learned that through one of those regrettable lapses that occur in even well regulated print shops, the December 1930 Journal was not properly indexed in the yearly index for 1930. Readers interested in preserving files of the *Journal* should amend the index now while the matter is fresh in mind.

There are 7,000 hospitals in this country containing 900,000 beds, representing an investment of more than three billion dollars. The hospital is fifth in the list of industries from the standpoint of capital investment. One out of every ten persons in our population uses a hospital every year.

The Otoe County Medical society is sponsoring a movement to induce the county board to establish and maintain a maternity ward for indigents at St. Mary's hospital, Nebraska City. The idea is worth passing on to other counties. The president of the society says: "There is a time in the life of every woman when she deserves the best medical and surgical care the community can provide."

Some astounding reactions have come from the hospital standardization of the American College of Surgeons. We learn that a county society unit of the American Medical Association in an Illinois county having a city of 28,000 population was completely disrupted several years ago (and so remains) over the standardization of a new hospital. One cannot help wondering whether imperialism or home rule should guide our motives.

Among 4,726 maternity cases cared for in New York City by the Maternity Center Association during a period of six years, the death rate was 2.2 per one thousand live births. Among others living in the same section, not cared for by the Maternity Center Association the death rate was 6.2 per one thousand live births,—nearly three times that of the group receiving such care. The results achieved have a definite implication. "If all mothers knew what constitutes adequate care, and it could be made available to them, 10,000 of the 16,500 women who die annually might be saved, and 30,000 babies that die each year before they are one month old could live. The need of the future is to put into operation the machinery which has been demonstrated over these years to be effective."

The Secretary of the Missouri State Medical Society sponsors the following:

On February 23, this year, a solicitor victimized a number of physicians in St. Joseph. His plan was to solicit subscriptions to Harpers and other magazines and to offer sets of books as premiums. The subscription blank called for the payment of $9.70 in ninety days. He was supplied with blanks, samples of binding and everything to indicate that he was a bona fide magazine salesman.

After he had secured the signature on the subscription blank, he explained in an indifferent manner that if the subscriber cared to pay cash, or by check, there was a discount of $1.00, and the check could be made payable to "Harper Brothers Publishing Co.," the name printed on the subscription blank. The doctors "fell for it" and the next day he cashed the checks at a local bank and departed. He used the name T. T. McLean while here but has also used the name Leroy Dale.

Correspondence with the National Publishers Association, 15 West 37th St., New York, indicates that this person has been defrauding physicians in the Middle West for several months.

This is a great age of convenience when one gets his food from cans, sermons by radio, and babies from foundling asylums.—Ohio State Journal.

NECROLOGY

Hugo Frederick Augustus Baske, native of Wisner, Nebr., University of Louisville School of Medicine, 1917; in transport service on the Atlantic during the World war; in Philippine service since the war until about a year ago when he was sent to Nicaragua; Lieutenant Commander United States Navy naval medical corps; was killed in the earthquake at Managua, Nicaragua, March 31, 1931, aged forty years. He is survived by a wife.

Henry C. Demaree, retired, Buhl, Idaho; Kentucky School of Medicine, 1872; for more than fifty years physician at Roca, Lancaster county, until about five years ago when he retired; well known member, Nebraska State Medical Association for many years; died March 29, 1931, aged about eighty-two years. He is survived by a widow, Dr. Emma Warner-Demaree.

Albert L. Kee, Cambridge, Nebr.; College of Physicians and Surgeons, Baltimore, Md., 1901; originally in practice at Holbrook, he had been located at Cambridge for nearly thirty years; established in 1906, the Republican Valley hospital which he conducted in cooperation with Dr. Clarence Minnick, until his death; member Nebraska State Medical Association for many years; died after a lingering illness of cardio-renal disease, March 29, 1931, aged fifty-four years. He leaves a widow and two sons.

PROGRAM OF WOMAN'S AUXILIARY TO THE NEBRASKA STATE MEDICAL ASSOCIATION

OMAHA, MAY 12, 13, 14, 1931
FONTENELLE HOTEL

Tuesday, May 12, 1931.

10:00 A. M. Executive Session—Headquarters.
12:15—Luncheon—Chamber of Commerce.
3:30 P. M. Tea at the residence of Mrs. A. C. Stokes. Hostess—Douglas County Auxiliary.

Wednesday, May 13, 1931.

10:00 A. M. Annual Business Meeting—Hotel.
12:30 P. M. Luncheon—Omaha Country Club.

MRS. E. W. ROWE
President, Nebraska Auxiliary

Make reservations with Mrs. F. W. Heagey, 521 South 38th Ave., Omaha.

Program following luncheon by Mrs. Geo. H. Hoxie, past president National Auxiliary.

6:30 P. M. Banquet—Ball Room Fontenelle Hotel.

Thursday, May 14, 1931.

10:00 Executive meeting.

Automobiles at disposal of guests at headquarters.

General Chairman—Mrs. H. C. Miller, Omaha.

Committee—Mrs. E. W. Rowe, Mrs. B. F. Williams, Mrs. B. B. Davis, Mrs. F. W. Heagey, Mrs. A. C. Stokes, Mrs. G. W. Dishong, Mrs. Palmer Findley, Mrs. W. H. Taylor, and Douglas County Auxiliary.

AUXILIARY NOTES

The members of the Dawson County Woman's auxiliary, April 10, at Lexington, held a spirited discussion of the ways and means to interest mothers in the study of preventable diseases.

Mrs. Ray Wycoff presented the claim of Hygeia.

Douglas County Woman's auxiliary is making plans for the coming state meeting in Omaha. Mrs. Harry Clyde Miller as president and her various committee chairmen are fast completing plans for the reception of the state visiting ladies. Mrs. B. B. Davis, as publicity chairman asks that the out-state members watch the papers from Omaha as to definite programs, etc.

—H. C. R.

ADVANCE PROGRAM, ANNUAL MEETING, NEBRASKA STATE MEDICAL ASSOCIATION

BALL ROOM, FONTENELLE HOTEL, OMAHA
MAY 12, 13, 14, 1931

TUESDAY, MAY 12—8:30 A. M.

Invocation.

1. Further Observations in the Treatment of Pneumonia—Dr. S. A. Swensen, Oakland, Nebraska.
Discussion—Dr. A. D. Dunn or Dr. R. W. Bliss, Omaha.

2. The Etiology and Mechanics of Massive Atelectasis—Dr. Ephriam Korol, Omaha.

3. Some Studies in Diabetes—Dr. A. D. Cloyd, Omaha.
Discussion—Dr. E. J. Kirk, Omaha.

4. Adenoid Abscess—Dr. B. M. Kully, Omaha.

5. Roentgenological Diagnosis of Lesions of the Oesophagus—Dr. A. P. Overgaard, Omaha.
Discussion—Dr. E. W. Rowe, Lincoln.

6. What Nebraska Physicians Should Know About Nebraska Hospitals—Dr. F. J. Bean, Omaha.

TUESDAY, MAY 12, 1931—2:00 P. M.

Installation of the President of the Nebraska State Medical Association—Dr. F. S. Owen, presiding.

Introduction of President-elect Dr. Lucien Stark—Dr. K. S. J. Hohlen, President.

Address—Dr. Lucien Stark, President-elect.

1. The Country Doctor Looks Around—Dr. A. A. Conrad, Crete.

2. My Personal Experience With Urography—Dr. C. F. Heider, North Platte.

3. Mantoux Observations on 520 Indian Children—Dr. Homer Davis, Genoa.
Discussion—Dr. F. W. Heagey, Omaha.

4. Obstetrical Symposium:
a. Prenatal Supervision—Dr. Fred L. Adair, Chicago.
b. Postnatal Supervision—Dr. J. C. Litzenberg, Minneapolis.
c. Teaching of Obstetrics and Its Bearing Upon Practice—Dr. Palmer Findley, Omaha.
d. What to Expect of the General Practitioner in Obstetric Practice—Dr. Buford Hamilton, Kansas City.

WEDNESDAY, MAY 13, 1931—9:00 A. M.

1. Recent Advances in Endocrinology—Dr. John G. Gardner, Omaha.
Discussion—Dr. M. C. Howard, Omaha.

2. The Selection of Operation in Peptic Ulcer—Dr. R. R. Best, Omaha.

3. Photographic Studies of the Retina in Systemic Disturbances—Dr. W. J. Stokes, Omaha.
Discussion—Dr. J. J. Hompes, Lincoln.

4. Dr. H. Winnett Orr, Lincoln—Title not at hand.

5. The Role of History in the Diagnosis of Tuberculosis—Dr. Miles J. Breuer, Lincoln.

6. Recent Advances in the Diagnosis and Treatment of Cancer of the Colon—Dr. Fred W. Rankin, Rochester, Minn.

WEDNESDAY, MAY 13, 1931—2:00 P. M.

1. Focal Infection in Childhood—Dr. E. J. Huenekins, Minneapolis.

2. Obstruction of the Small Intestine Due to Benign Granuloma—Dr. Clayton Andrews, Lincoln.
Discussion—Dr. Clyde Roeder, Omaha.

3. Some Practical Points in Allergy—Dr. O. A. Reinhard, Lincoln.
Discussion—Dr. Ernest L. MacQuiddy, Omaha.

4. The Eustachian Tube—Dr. Stanley G. Zemer, Lincoln.

5. Juvenile Asthma—Dr. W. O. Colburn, Lincoln.
Discussion—Dr. J. Harry Murphy, Omaha.

6. Elks Clubs Crippled Children's Clinics—Dr. Fred W. Buckley, Beatrice, Nebraska.

7. How Can We Estimate and Improve the Operative Risk in Patients With Disease of the Biliary Tract—Dr. Evarts A. Graham, St. Louis, Mo.

THURSDAY, MAY 14, 1931—9:00 A. M.

1. Treatment of Epethelioma by Radiological Methods—Dr. A. F. Tyler, Omaha.

2. The Variability of Insulin Hypoglucemia—Dr. Lowell Dunn, Omaha.
Discussion—Dr. John Potts, Omaha.

3. Some Factors Influencing Surgical Morbidity and Mortality—Dr. John W. Duncan, Omaha.

4. Cardiac Hypertrophy—Dr. G. L. Pinney, Hastings.
Discussion—Dr. H. J. Lehnhoff, Lincoln.

5. Report on Congress of Medical Education and Hospitals—Dr. J. Stanley Welch, Lincoln.

6. Liability Insurance—Dr. R. W. Fouts, Omaha.

7. Dr. Ernest Sachs, St. Louis, Missouri—Title not at hand.

THURSDAY, MAY 14, 1931—2:00 P. M.

1. The Choice of An Anesthetic—Dr. J. M. Willis, McCook.

2. Uncle Sam Practices Medicine—Dr. A. L. Miller, Kimball.
Discussion—Dr. F. B. Young, Gering.

3. The Reconstruction of Severe Fractures in Which the Immediate Outcome Has Not Been Satisfactory—Dr. Herman Johnson, Omaha.

4. Subacute Bacterial Endocarditis—Dr. J. C. Waddell, Beatrice.

5. The Present Day Status of Surgery for the Goitrous Thyroid—Dr. Clyde Roeder, Omaha.

6. Cleft-Palate Surgery—Its Use and Abuse—Dr. Wm. L. Shearer, Omaha.

7. Spinal Anesthesia in Intestinal Distention—Dr. Joseph Weinberg, Omaha.

TUBERCULOSIS ABSTRACTS

A REVIEW FOR PHYSICIANS

The greater precision of the X-ray film, its permanence, and the convenience of studying it at leisure are advantages over the fluoroscopic method. But the fluoroscope is of great value under certain special conditions. Its advantages are chiefly economy of time and money for the examination of large groups of apparently well adults. Some clinicians maintain that with the fluoroscope it is possible to discover the lesions as accurately as, and more quickly than by means of percussion and auscultation. None would deny that a physical and X-ray examination is the most accurate. But a physical and fluoroscopic examination is better than a physical alone. Certainly the fluoroscopic method deserves study by those who are interested in finding tuberculosis in groups of college students, employees and soldiers.

THE FLUOROSCOPE IN THE DIAGNOSIS OF TUBERCULOSIS

Reid in 1929 reported on the results of examining applicants for positions in a large insurance company with the fluoroscope. This examination was used at first as an adjunct to the routine physical examination of the chest. The accuracy of the method was tested on 100 persons whose chests were negative on physical examination and were passed fluoroscopically as normal. These were X-rayed and the entire group was classified as with "healthy adult chests" by the roentgenologist. Another group of 123 cases in which definite signs were described by the same physician, such as harsh breath sounds, transient rales, and prolonged expiration at the apices, were fluoroscoped, classified, and then X-rayed. In only one of these did the X-ray show evidences of tuberculosis and this at a very early stage. Reid concluded that "in the abscence of physical signs, it is possible to demonstrate pulmonary pathological changes by means of the fluoroscope with sufficient accuracy to render the procedure a most valuable adjunct to the routine physical examination of young adults."—The Value of the Fluoroscope as an Adjunct to Routine Physical Examination of the Chest, Ada Chree Reid. Amer. Rev. of Tuberc., July, 1929.

FLUOROSCOPIC EXAMINATIONS OF UNIVERSITY STUDENTS

Kattentidt reports the findings among students of the University of Munich. In the winter of 1929-30, he made fluoroscopic examinations of 1,768 students (1,363 males and 405 females) as part of the compulsory physical examinations at matriculation. Some evidence of tuberculosis was found in 14.5 per cent. In most cases, the tuberculosis lesion was inactive, a few were partially active, but in six cases, or 0.34 per cent of the entire series, there was an open lesion. These six cases all occurred in males. At the same time, 772 students (699 males and 73 females) were examined at their own request. The findings were substantially the same as among the "compulsory" group. In the previous summer semester (1929), the percentage of tuberculosis lesions found in 1,437 male students was 22.6 per cent and 0.49 per cent open lesions, and of 360 female students 15 per cent tuberculosis lesions and 0.28 per cent open lesions.

Combining the findings for the two semesters of compulsory and voluntary examinations of 4,836 students of both sexes, the results were as follows:

Inactive lesions	14.8 %
Partially active lesions	1.3 %
Active closed lesions	0.17%
Open lesions	0.39%
Total tuberculosis lesions found	16.66%

The author cites the findings of Kayser-Petersen and Wiewiorowski, who examined male university students. Adding this series to his own, he finds that in the combined groups of 6,513 apparently healthy young men between 20 and 30 years of age, 30 cases or 0.46 per cent had open tuberculosis. This figure, he believes, represents the incidence of tuberculosis among this group at a certain definite time.

DEVELOPMENT OF ACTIVITY DURING SEMESTER

Further cases of active tuberculosis may develop in the group, as shown in repeated examinations. Thus, of 2,296 students examined in the summer semester of 1929, four more students (male) developed open tuberculosis and one an active closed tuberculosis up to June 25, 1930. Of the students examined in the winter semester of 1929-30, one additional case of active closed tuberculosis developed. Thus, in the course of a year, the incidence of open tuberculosis increased from 0.48 per cent to 0.65 per cent.

Brief clinical histories are given in the eleven cases (eight with open and three with closed lesions) discovered in the winter semester. The lesion was usually of the chronic interstitial type; the sputum was positive for tubercle bacilli in seven cases, negative in three cases and no sputum was obtainable in one case. Physical examination showed no evidence of tuberculosis in seven of these eleven cases. This would indicate that physical examination alone fails to reveal tuberculosis in a larger percentage of cases than has been suspected. In these eleven cases, eight had open lesions as shown by the positive bacteriological findings in seven cases and the clinical findings in one case. Yet none of these showed large areas of destruction; the author has often been surprised to find tubercle bacilli in the sputum in cases in which there was little evidence of a destructive process.

SUPERVISION OF CASES NECESSARY

Continuous supervision of such cases is necessary, however, as shown by the case of one student, who showed hilus changes on her first examination, and no definite changes on re-examination half a year later (no lesions in the pulmonary tissue). Yet ten days after this second examination, this student had a pulmonary hemorrhage, which was thought to be due to bronchiectasis, as the sputum was negative and the red cell sedimentation velocity was normal. As a matter of precaution, she was sent to a sanatorium for observation and there pulmonary focal lesions developed suddenly with positive sputum; the tubercle bacilli persisted in the sputum for several months. This was the only case in which signs of activity developed in cases with inactive lesions within six months. But this is not remarkable, since tuberculosis is a decidedly chronic disease; it indicates that these cases must be kept under prolonged supervision.

Among 44 cases diagnosed as partially active in the summer semester (1929) two students developed symptoms that necessitated sanatorium treatment. In one of these cases, there was an increase in the pulmonary lesion, and the sputum showed a few tubercle bacilli. In the second case, the pulmonary lesions showed little change, but new adhesions had developed, and the patient's general condition was poor.

TYPES OF LESIONS

A study of the types of tuberculous lesions found at the different ages in the 2,540 students examined in the winter semester showed 457 students under twenty years of age (17 to 19), the great majority over twenty years of age (from 20 to 30 years). The early forms of tuberculosis lesions, including exudative pleurisy, occurred only at the earlier ages, mostly at twenty years or younger. Most of the cases of open tuberculosis occurred at twenty-one years of age or later, only two cases at the age of twenty, and none before the age of twenty. The highest percentage of cases of open tuberculosis occurred at the age of twenty-one (in 0.78 per cent of students at this age). The focus of infection was demonstrable only in six of the nineteen active cases of tuberculosis.

HEALTH CARE OF STUDENTS

The records of the results of the physical examination and of the fluoroscopic examination are filed with the university. The student is also given a printed card showing the result of the fluoroscopic examination, and whether there is any indication of tuberculosis lesion in the lung, whether such lesions are entirely inactive or show any signs of activity, and whether any type of athletics is permissible. This brings the patient into contact with the athletic medical director, where this is advisable, and indicates whether further supervision or examination is desirable, or whether immediate treatment is necessary. The author is of the opinion that certain types of sports and gymnastic exercise are of definite value in the treatment of inactive tuberculosis; and that the close co-operation established with the athletic medical director by the system adopted is of definite value for the students, and for the further study of the effect of athletics on respiration and circulation in relation to the effects on tuberculosis.—Fluoroscopic Examination in the Second Semester at the University of Munich, B. Kattentidt, Ztschi. f. Tuber., 58:209, 1930 (October).

PANORAMIC VIEW OF THE WOMAN'S AUXILIARY TO THE A. M. A., IN FOUR ARTICLES

3. SOUTHERN DISTRICT

Mrs. C. W. Garrison

The third or Southern District of the Woman's Auxiliary to the A. M. A. may not have moved so rapidly as regards the number of Auxiliaries organized as the other sections but the quality of those existing have proven them to be of the greatest value in promoting the aims of the national body.

Alabama reported three counties organized last year, and is particularly interested in a health program giving especial attention to children with a tuberculous condition. The group visited in Birmingham were alive and interested, and had the co-operation of their Medical Society.

Arkansas reported thirteen counties organized, all giving attention to a health program and trying to raise an adequate loan fund for medical students only. Some of the counties contributed obstetrical kits for use in the rural districts. Many of the Auxiliary members in Arkansas are devoting much time and energy to the Parent-Teacher work and are aiding in the various civic and welfare organizations. All will be gratified when the State is organized 100%.

Florida, large areas of which are sparsely settled, has ten auxiliaries. Some of these are composed of a combination of two or more counties. Proof of the quality of these groups was seen when a large medical organization and its Auxiliary were entertained in Miami in 1929. Mrs. J. Ralston Wells, the little woman who now heads the State Auxiliary furnishes further proof of their aliveness and interest. Florida with her marvelous fruits, flowers, vegetables and her wonderful sunshine has just as wonderful and marvelous women in her Medical Auxiliary.

Georgia, which has given to A. M. A. Auxiliary one of its most efficient presidents, Mrs. Allen H. Bunce, has more counties than any other state of its size and has twenty-one of these organized for Auxiliary. They have the full approval and co-operation of the State Medical Association, and having attended their State convention in 1929, the writer will vouch for the fact that no national meeting is more replete with interest and enthusiasm than were found in Georgia, nor have we found anywhere a greater desire to foster the aims and purposes of the national body. No group of women can possibly have greater courtesy, interest and encouragement shown them and their work than is given to the Georgia Auxiliary by the medical men. Mrs. Harrold will bring from her state a goodly report.

Louisiana reports only two parishes organized. Taking into consideration the fact that one of these two auxiliaries has a greater enrollment than have some whole states makes us feel that Louisiana will not be far behind in the number of parishes when her final report of accounting comes in. She is not lacking in interest in any direction because the president of the State Auxiliary, Mrs. Harrold, is of the type who says "We Will".

Mississippi reported four auxiliaries last year, and again we are able to speak with assurance of our expectations from this state. The president of the State Auxiliary attended the meeting in Detroit and returned to her state carrying with her additional enthusiasm and determination to gather into the fold more county organizations. This dream will come true. Mrs. Polk was the first to respond to our first circular letter. She has the approval and encouragement of the medical men of her state to go forward.

We may expect to hear of more interest, as well as more auxiliaries in North Carolina. Mrs. W. B. Murphy is the President of this great State, and though we have before us no report for last year, we do know of their interest in the past and believe we may hear the number five at least doubled in their next report.

South Carolina shows thirteen counties organized, and Mrs. Mauldin was prompt to reply with assurances that better things are ahead for next year.

Mrs. L. M. Sackett now leads the one Auxiliary reported from Oklahoma, and we feel certain that others will be added before June.

On invitation from its President we had the pleasure of meeting with the Davidson County Auxiliary in Tennessee early in October, and found a splendid group of women earnestly desiring to serve in the most useful way. We found as a member of this Auxiliary the State President, Mrs. Milton S. Lewis. While only four auxiliaries are reported from Tennessee, they are the counties in which the largest cities are located. The distances are great between, but with the known interest and enthusiasm of the two counties visited, Davidson and Shelby, we are assured that Tennessee will bring to the next National Meeting a report filled with accomplishments which tend to fulfill the aims and purposes of the Auxiliary.

While we were not fortunate enough to meet with the Texas Auxiliary, we did have a little visit with the energetic and charming president, Mrs. O. M. Marchman. Texas, the mother state of the Medical Auxiliary as it is now recognized, has thirty-five County Auxiliaries, and with a live, interested organization chairman such as Mrs. J. T. Moore is proving herself to be, others will be added before the next State meeting in May. Texas Auxiliaries have earnestly promoted a health program, always working shoulder to shoulder with the fine progressive men of the Medical Association who, in turn, endorse the Auxiliary movement, and are unstinted in encouragement to further development of the organization.

At this time the minds of the Third District are directed towards the Keystone State and the City of Brotherly Love, and many are hoping to be wending their way to Philadelphia in early June that they may partake of the feast of inspiration and absorb the spirit of Auxiliary. Pennsylvania and her neighboring states have grown so marvelously that all are now anxious to sit at their feet and learn. This the third district is anxious to contribute its quota of honor paid to the medical men in whose interest we serve, and so it is with high anticipation that all plans are being made to be present at the annual meeting of the A. M. A., June 8-12, 1931.

THE SOCIETIES

The regular March meeting of the **Omaha-Douglas County Medical Society** was held on the evening of the 25th, Dr. A. S. Pinto, president, in the chair.

The scientific program opened with a case presentation by Dr. J. J. Keegan. This was a young woman, a graduate nurse, who was suffering from Raynaud's disease of several years duration. Both lower and upper extremities were subject to vaso motor disturbances accompanied by circulatory changes in the extremities. Dr. Keegan reviewed briefly the etiology, symptomatology and pathogenesis of this condition. This patient was treated by thoracic sympathectomy. The patient was relieved of her symptoms in the upper extremities and according to the speaker a similar operation is planned on the lower part of the lumbro-dorsal region.

The next number on the program by Dr. John F. Allen, Early Tuberculosis. Dr. Allen stressed the modern view of this condition. He pointed out particularly that early tuberculosis is not limited to the apical region of the lungs but may occur anywhere along the pulmonic site. It is particularly prone to occur in the subclavicular region of the lungs. Symptoms are not always definite in the early stages of tuberculosis. They may simulate almost any disease involving any organs or systems that tend to mask actual pulmonic pathology. The x-ray, the essayist brought out, is an invaluable aid in making an early diagnosis of tuberculosis. The childhood type of tuberculosis was particularly stressed and a review of the latest literature on this subject was presented by Dr. Allen.

Dr. Howard B. Hunt discussed certain phases of x-ray diagnosis of early tuberculosis.

The guest speaker of the evening was Dr. John W. Martin of Baltimore, vice president and surgical director of the U. S. F. and G. Company of Maryland. The speaker was introduced by Dr. J. A. Weinberg. Dr. Martin stressed the relationship between traumatic surgery and industry. He pointed out that every injury acquired in industry is deserving of the most careful attention on the part of the medical adviser regardless of the extent of the injury. He brought out the fact that minor injuries are frequently more complicatiing than the severe types of injuries occurring in industry. Industry nowadays, Dr. Martin brought out, is so appreciative of the health of its employes that it expects the best services that the medical profession can afford. Industry is willing to amply repay for the trouble that a physician takes in caring for the injured providing that carefulness and thoroughness accompany the treatment given. Dr. Martin illustrated some of the problems of an insurance company in connection with this point. Slides showing faulty treatments of fractures and dislocations, faulty technic, careless dressings and faulty appliances, are responsible for many deformities with malpractice damages for which there is no reasonable excuse if care and diligence had been applied during the first few treatments given.

—The Bulletin.

A regular meeting of the **Lancaster County Medical Society** was held in the Sharp building, March 3, 1931, the president, Dr. S. E. Cook, presiding.

The first paper of the evening was read by Dr. Earl N. Deppen on "Essential Hypertension." He stated that of 150 applicants examined for advanced R. O. T. C., fifteen showed a systolic blood pressure over 150, and most of them a diastolic blood pressure of over 100. In five cases the systolic pressure was over 170. The findings persisted after all possible efforts were made to eliminate the nervous factors. None of the group had any symptoms of hypertension and practically none gave any history of any previous illness. Physical examination including urinalysis, blood nitrogen determination and electrocardiographic tracings showed no evidence of pathology. He made reference to some of the literature on the subject which would indicate that essential hypertension is a progressive disease beginning in the second and third decades of life and ending from the third decade on by developing into cardiac failure, cerebral accidents and renal insufficiency. He mentioned the theories of etiology particularly (1) sclerosis of the arteries of the brain affecting the vasomotor center, (2) emotional instability, (3) heredity, (4) endocrine disturbances, (5) vascular changes in the kidney, (6) foci of infection. The treatment consists chiefly in modifying physical and emotional activity and treating complications as they arise. The prognosis is hard to determine. The paper was discussed by Drs. Covey, Webb, Flansburg, Fahnestock, Rogers and Hompes.

The second paper of the evening was read by Dr. Roscoe L. Smith on "Radiation in Uterine Bleeding." Dr. Smith first reviewed the principles of radiation, pointing out that stimulating or destructive dose of x-ray may be used. He demonstrated the physical qualities of different types of x-rays, pointing out that the higher the voltage used, the shorter is the wave length and the deeper is the penetration. Undesirable waves are removed by metallic filters. In uterine radiation deep penetration is desired so that high voltage x-rays are used. He demonstrated the principle by which cross-firing or applying radiation to the front and back will deliver a larger dose to the uterus than is delivered to the skin in either case. When a destructive dose is desired on malignant growths this type of x-ray is combined with radium placed within the uterus, which combination serves to deliver a destructive dose to the involved area. He stated that in cases of bleeding at the menopause a single treatment will usually suffice to stop the bleeding.

The fibroid uterus on the other hand requires repeated treatments to cause a disappearance of the tumor, although the bleeding usually stops after the first. The fibroid occurring in senile women may bleed regardless of radiation, and is a surgical condition primarily. He discussed the treatment of cancer of the cervix in some detail. A cure may be expected in approximately one-third of all cases without any primary mortality. He outlined the method of applying radium in this condition and carcinoma of the fundus of the uterus. In summarizing he pointed out that there is no mortality, no morbidity and no disability to the patients in radiation treatment for these conditions. The paper was discussed by Drs. Rowe, Warner and Owen.

A regular meeting of the **Lancaster County Medical Society** was held on March 17, 1931. The guest of the evening, Dr. Carl A. Dragstedt, Professor of Pharmacology of Northwestern University Medical School, was entertained at dinner at the University Club by ten members of the society. Following the dinner he addressed the society in the Sharp building on "Studies in Bone Physiology." About forty members were present. The president, Dr. S. E. Cook, presided.

Dr. Dragstedt introduced his paper by pointing out the various contributions which have been made to the knowledge of bone growth and repair, mentioning particularly the relations of calcium and phosphorus in the blood, of vitamin D, and of the parathyroid gland to these functions.

Using lantern slides he demonstrated first the method of studying bone repair by excising a portion of the femur in dogs and studying the repair by roentgenograms. The defect in normal dogs was filled in a rather constant time. Using the same method he studied the healing in parathyroidectomized dogs which were kept alive by the oral administration of calcium lactate. These dogs showed early a greatly lowered blood calcium which approached a normal level after a few weeks. In these groups the healing process was delayed, the delay being greatest when the blood calcium was lowest. Complete healing, however, eventually occurred. In another group of parathyroidectomized dogs parathormone was given, and in this group healing occurred in almost normal time, and the blood calcium remained at practically normal levels. In the fourth group large doses of quinine were administered to normal dogs and healing was delayed. He stated that the administration of calcium, parathormone, or vitamin D in normal dogs did not hasten the healing process. He concluded that these general factors only influenced bone healing when there was a deficiency and then only influenced the time of healing.

Turning then to local factors which may influence bone repair, he mentioned the work of Huggins and Kay, who had demonstrated the presence of an enzyme called phosphatase, which has the power of liberating inorganic phosphorus from its organic compounds. This enzyme occurs in high concentration in growing bone and kidney tissues. He showed the experimental methods of producing extraskelatal bone growth by transplanting a strip of fascia lata into the wall of the bladder. He suggested that bone formation at this site is perhaps dependent on local high concentration of phosphatase. The quinine experiment was performed on the theory that perhaps the drug would depress the enzyme function. Other local factors which might influence bone repair are interference with the blood supply, interference with nerve supply and interference with life of osteogenic cells, such as occurs after exposure to radiation.

In conclusion Dr. Dragstedt pointed out the apparent uselessness of trying to accelerate bone repair by influencing the general metabolism. Such hope probably depends on influencing local factors of which the enzyme phosphatase is attracting most attention.

The paper was well received by the members of the society and Dr. Dragstedt very kindly answered a number of questions.—Bulletin Lancaster County Medical Society.

The **Hall County Medical Society** election of officers occurred with the following result: Dr. E. E. Farnsworth, president; Dr. A. P. Synhorst, vice president; Dr. A. J. Johnson, secretary-treasurer.

At the last meeting, President Farnsworth appointed a committee who were assigned the task of obtaining adequate convalescent antipoliomyelitis serum to meet the need of this community. This committee consists of Dr. F. D. Ryder, chairman, who, with Dr. J. G. Woodin, were instrumental in first getting the serum in this region. The latter is on this committee with also Drs. J. V. Reilly, W. W. Arrasmith, W. D. McGrath and Amil J. Johnson. The serum to date has been made in the St. Francis Hospital laboratories.

The diphtheria toxin-antitoxin injections given gratis to school children in Grand Island has now drawn to a close with an unprecedented response to the recommendation of the school physician, Dr. Frank D. Ryder. Over 2,000 children were given the serum upon an explanation of benefits derived. Since each child got three consecutive innoculations, Dr. Ryder engaged other physicians in the city to assist with the work which has been done freely and willingly.

The orthopedic clinic held in Grand Island was a decided success from several points of view. Over a hundred crippled children were examined free of charge and treatment recommended.

This work was done under the auspices of the Elks Lodge who engaged all the doctors in a given jurisdiction, as outlined by Mr. Mann of the Elks Lodge, a large number of whom were willing to help conduct the clinic. The orthopedic men engaged for the specific orthopedic recommendations were Drs. Herman Johnson and J. W. Martin of Omaha.

—A. J. Johnson, Sec.

The **Dawson County Medical Society** and the Women's Auxiliary held regular quarterly meet at Cornland Hotel, Lexington, Friday evening, April 10th. A roast chicken dinner, beautiful tables, cut flowers and special service upheld the standard set by the Cornland through their turkey dinner one year ago.

Two hours were spent by the doctors in earnest discussion of troublesome questions daily confronting doctor and surgeon.

First: The county's dependents. The indigent and the emergencies. The need for uniform action and organized logic in dealing with a condition complex and heroic in handicaps, and sufficient only in ingratitude.

Second: The Fee Bill under the searchlight of present frenzied finance. Slight change in adjustment agreed. Unanimous agreement to be secured through personal work of a committee appointed.

The April meeting of the **Cheyenne-Kimball-Deuel Counties Medical Society** was held in Kimball, Monday evening, the sixth, Drs. P. C. Mockett and A. R. Everett being hosts to the society.

This meeting proved to be a very successful one, a large number of the members turning out, together with a number of invited guests from surrounding towns that added greatly to the fulfillment of the event.

The program of the evening consisted entirely of a lecture, accompanied by lantern-slide photographs and illustrations, on two separate topics, namely, "Eczema" and "Ringworm", presented by Dr. Donald J. Wilson of Omaha.

Dr. Wilson gave a very good criticism regarding too many skin conditions being called eczema merely because they were not properly diagnosed, which shows that many men do not know a great deal about skin diseases. The lecture and slides added greatly to our limited knowledge of skin diseases and I am sure many profited by it. Dr. Wilson also stressed the use of x-rays in treating certain skin diseases and pointed out the fact that where large doses are required they should only be given by a trained roentgenologist and dermatologist.

—J. B. Pankau.

The **Gage County Medical Society** met April 9 at Beatrice. The program was put on by Drs. W. O. Colburn and E. S. Wegner of Lincoln. Stress was placed on the proposition that height and weight are not infallible indices of nutritional states of children. Much is yet to be learned about foods for children. Emphasis is now being placed on the mineral contents of food stuffs as well as the vitamins. Vegetables, fruit and milk produced in different sections of the country vary in their mineral contents such as iron, iodine, lime, copper, arsenic, etc., according to the soil contents of the region; so that the virtue of spinach, for instance, depends on the soil in which it was raised.

The **Seward County Medical Society** met at Seward on March 26. Dr. James Muir of Milford, read a paper on "The Army Treatment of Syphilis." Discussion led by Dr. H. D. Clark of Seward. Dr. J. E. Meisenbach of Staplehurst presented a paper, "The Diagnosis of Ano-Rectal Disease." Discussion by Dr. J. W. Neville of Utica. These were excellent papers and thoroughly enjoyed by the members.

A joint meeting of the **Dodge and Saunders Counties Medical Societies** was held at Wahoo. Papers were read by Dr. M. E. Lathrop, Wahoo; Dr. Charles Moon, Omaha; Dr. A. O. Fasser, Fremont. A Dutch luncheon followed the program.

The **Thayer County Medical Society** met at Hebron, April 9. Following a dinner at the Central Hotel, Dr. E. V. Wiedman, Lincoln, read a paper on "The Care of the Newborn". Following the formal paper, an hour was spent in the informal discussion of various pediatric problems, including immunization.

—Rudolph F. Decker, Sec'y.

HUMAN INTEREST TALES

Dr. R. B. Armstrong, Papillion, was reported in a hospital a month ago.

Dr. R. E. Hall, Lyons, was incapacitated by an infected hand last month.

Dr. L. F. Chapman, formerly in practice at West Point, has located at Hay Springs.

Dr. Olga Stastny, Omaha, will head a group of tourists on a trip to Europe this summer.

Dr. F. L. Ready, for the past year in practice at Hartington, has gone to Los Angeles.

Dr. John W. King and Miss Eva Tatreau of Hartington were married the latter part of March.

Dr. C. A. Pierson, Beemer, was incapacitated by sinusitis and submitted to an operation in March.

Dr. D. D. Stonecyper, Nebraska City, has gone to Vienna for study in eye, ear, nose and throat affections.

Negro Health Week was featured in Omaha with the cooperation of the health, civic and social organizations.

Dr. E. R. Hays, Falls City, spoke before the Omaha Woman's Auxiliary recently on "Communicable Disease Control."

Dr. G. W. Dishong, Omaha, spoke "The Right Mental Attitude" before the Garfield school Parent-Teacher association, recently.

The Nebraska State League for Nursing Education sponsored an institute, April 14-16, emphasis being placed on Supervision in Nursing.

A baby health clinic at the Adams County Fair at Hastings is being sponsored jointly by the Adams County Medical society and the Red Cross.

Dr. Joseph Pollard, son of Dr. and Mrs. C. W. Pollard, Omaha, has become assistant professor of physical education and hygiene, at Dartmouth college.

Dr. Harry Hepperlin, Jr., Beatrice, who has recently returned from a period of study in Vienna, spoke before the local Rotary club on life and study in Vienna, recently.

Dr. Thomas L. Gritzka, who has just completed a year's interneship at Dallas, Texas, is locum tenans for his father Dr. C. F. Gritzka, Talmadge, who is taking a vacation.

A free clinic for crippled children is planned for the Fremont area shortly. Burt, Cuming, Dodge, Saunders, Washington and Thurston are in the area intended to be covered.

Dr. Charles P. Emerson, dean of the medical college and professor of internal medicine of the University of Indiana, gave the annual address before the Alpha Omega Alpha medical college fraternity, Omaha, March 27.

Dr. I. H. Dillon, former practitioner at Auburn and sometime chief of the state bureau of health, has been appointed eye, ear, nose and throat surgeon to the Santa Fe hospital, Topeka, Kansas. He had recently been in practice at Wellington, Kansas.

The annual post-graduate summer clinics conducted by Cook County Hospital, Chicago, under the auspices of the Chicago Medical Society will be held June 22 to July 3. Doctor N. S. Davis III, secretary of the society, reports that the clinics will be organized to give the practicing physicians in attendance practical instruction in the line of medicine and surgery.

ROSTER OF OFFICERS—1931

K. S. J. Hohlen, Lincoln, President	1931
Lucien Stark, Norfolk, President-elect	1932
J. M. Willis, McCook, Vice President	1932
F. B. Young, Gering, Vice President	1932
R. B. Adams, Lincoln, Secretary-Treasurer	1933

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A. P. Overgaard, Omaha, Secretary	1933
H. J. Lehnhoff, Lincoln	1933
W. R. Boyer, Pawnee City	1933
A. E. Cook, Randolph	1933
Morris Nielsen, Blair	1931
Frank Tornholm, Wahoo	1931
H. E. Potter, Fairbury	1931
W. J. Douglas, Atkinson	1931
R. D. Bryson, Callaway	1932
L. W. Rork, Hastings	1932
C. A. Selby, North Platte, Chairman	1932
A. L. Cooper, Scottsbluff	1932

DELEGATES TO THE A. M. A.

B. F. Bailey, Lincoln	1931
R. W. Fouts, Omaha	1932

DELEGATE TO COUNCIL ON MEDICAL EDUCATION OF THE A. M. A.

J. S. Welch	Lincoln

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LEGISLATION AFFECTING THE DOCTOR*

LUCIEN STARK, M. D., President, Nebraska State Medical Association,
Norfolk, Nebraska.

As it is the usual thing for the incoming president of this organization in his presidential address to deal with certain things connected with medicine which are neither strictly medical nor scientific in character, it is my intention to call your attention to some things in the lives of physicians that have been sadly neglected. I refer to legislation which affects the doctor.

This legislation may strike directly at his economic condition or it may be of the meddlesome variety which will prevent, or at least try to prevent, his carrying out his full duty to his patient or it may constitute just enough interference to worry and annoy him. Most of this legislation is regulatory in character and is brought about principally through the efforts of well-meaning people, but people who have no scientific. technical nor medical knowledge and who have no appreciation of what constitutes actual conditions in actual medical practice. In medicine we are generally confronted by an existing condition affecting the well-being or even the life of an individual and not by a theory as to how he should or should not have lived.

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*Presidential Address before the annual meeting, Nebraska State Medical Association, Omaha, Nebraska, May 13, 1931.

In the last few years our National Congress as well as the most of our State Legislatures have had a great deal of both of these types of legislation brought before them. I think that the last session of our own Legislature is a very good cross section of what constitutes an average of economic, meddlesome and regulatory legislation. House Roll 280, which was the bill compelling the doctor to accept fifty per cent of his regular fee for caring for any indigent that might fall into his hands, has been perfectly sunk but it does show a tendency toward economic interference. The origin of that bill is easy to detect. Its introducers both come from counties with little or no hospital facilities and when an indigent case requiring hospitalization confronts them, they are so situated that the case can be easily sent out of the county to a hospital and the attending physicians and surgeons at that hospital would have to accept one-half of their regular fee for caring for such a case. The bill was drawn so that it would affect all of the doctors in Nebraska and therefore could not be classed as selective legislation. I know of no good reason why any doctor should be compelled to accept one-half of his fee for the care of such a case any more than the grocer, the coal dealer, the clothing merchant, the light and power companies and any others who supply the indigent with the necessities of life should be compelled to accept one-half of their bill as payment in full. If there is ever a time when these people require assistance it is when they are ill and no doctor should be forced, nor even asked, to care for any of these unfortunate members of society for one-half of his regular fee when it is he who is bringing them the greatest amount of help that they can possibly have at such a time.

Some years ago Dr. Morris Nielsen made a statement before this society which I think is particularly applicable to this situation. I do not know that I can correctly quote him but the quotation in substance was, "The care of the indigent is in no way the responsibility of the doctor, but is the obligation of the community as a whole."

For many years the doctor has been forced to assume the role of a more or less perpetual Santa Claus in every community. Both city and county officials in every city and county in Nebraska will boldly ask the doctors of that county to do things for the city and county without pay which they would never dream of asking of men in any other business or profession.

A man without means is placed under arrest and is tried for some crime with which he is charged. Does he appear in court without a defense? Oh, no, the Judge before whom he is tried will appoint an attorney to defend him and the county board of that county will pay without quibble or question the defense fee of that attorney although the man on trial was generally known to be guilty of the crime with which he was charged long before he was ever tried. The same county board will ask a doctor to care for indigent people in the same community which requires more work, more time and more effort than was required in the defense of this man and then either turn down his bill or try to get him to accept less than he would obtain from his private patients for the same service.

We have had recently in Nebraska a sort of an epidemic of "Acts of Nullification". Boards of county commissioners have passed resolutions that they will no longer pay for operations or specialized medical treatment for those who are so unfortunate as to be wards of the county. They seem to have assumed that the doctors must care for these people anyway so why should they worry about them. They may pass all the resolutions that they wish to pass but if they try and carry any of them out their attention should be called to the statute and if that does not suffice, a suit will soon convince them of the error of their ways. The majority of county boards will not approve for payment a bill which has not been authorized by at least one of their number and in some instances their position is rightfully taken. It does not follow, however, that the bill which is presented for the care of an emergency for which there was no opportunity for authorization should be turned down or discounted when presented for payment. I believe that there is this general rule covering the emergency case. The commissioner must be notified within twenty-four hours of the time that the emergency takes place. I believe it is the safe thing to confirm such a notification by letter even if you do have a telephonic confirmation as commissioners can at times be very forgetful. The Supreme Court of our State has been very fair to the profession in cases of this type that it has been called upon to decide and any man with a legitimate claim against a county can expect to receive fair treatment at its hands. The court has handed down many decisions in cases of this kind and it might be well for you to look up at least some of them and ascertain just how our highest judicial tribunal has decided them in the past. Begin with the case of *Fulton versus Gage County; Plumb versus York County; Shidler versus*

York County; Neslund versus Dawson County and on through quite a list of them, read them over. They are very interesting and may teach you how to avoid many things that at times become troublesome and at the same time give one the outlook usually taken by our Supreme Court. The case of Neslund versus Dawson County, concerning which you will find a very interesting article in *The Nebraska State Medical Journal* for July of 1929, is one of the best cases that one may use for reference. In the decision of this case the Court lays down as a general principle, "The board may not arbitrarily avoid liability by a heartless disregard of the most obvious necessities of suffering humanity".

All of the cases cited above carry the same general principle as applied in the Neslund case and that principle is not limited to cases that are of the same kind.

Boards of county commissioners are required by the statute to appoint a county board of health. The statute requires that this board shall consist of the sheriff, county superintendent, and a physician to be selected by the board. That board of health has general control and oversight of the health and sanitary conditions of the county. When necessary they must investigate contagions and plan methods to combat them as well as act upon sanitary complaints which may be brought to their attention. As most of us at some time have served upon such a board it is not necessary that I go into detail. I will venture to say that ninety per cent of the physicians in this room have served on such boards as these and that ninety per cent of those who have served, served without pay. In the case of *Plumb versus York County* as well as the case of *Shidler versus York County* our Supreme Court held that the medical member of these boards should be paid for his actual work and in the Shidler case the amount as I remember it was well over fifteen hundred dollars.

These things affecting the economics of the profession I bring to your attention because I do not believe that all of you know about them. It has long been my contention that so long as the man who fixes the bridges, cleans out the culverts and keeps the roads passable is being paid for his service to the community there is absolutely no reason why the doctor should not also be paid. In the last analysis it all reverts back to Dr. Nielsen's quotation that, "The care of the indigent is in no way the responsibility of the doctor but is the obligation of the community as a whole".

Also affecting the doctor's economic condition is the present statute of limitations as regards actions for malpractice. When times are hard and money is scarce these actions multiply like the guinea pigs we raise for laboratory use. It was our intention during the last session of the legislature to make an effort to have the law changed, establishing a statute of limitations in malpractice suits of one year. You may not know it, but every man in this room is still responsible for his professional acts of four years ago as our statute of limitations is four years. In most of our states it runs for one or two years and I believe that that would be proper in Nebraska. I think that you will all agree with me when I say that ninety per cent of the cases of malpractice are brought when the doctor makes an effort to collect his bill. It is not until then that the individual discovers that malpractice has been done him. To my mind it would be a very sensible thing to get established a statute of limitations of not more than two years so that when these people are crying and sobbing and pleading with the doctor to help them he does not have to carry his full legal equipment with him. We made no attempt this year to establish such a statute of limitations as it was generally believed that our legislature needed a bit more education upon this subject but I leave it with you as a recommendation that it be taken up with the next legislature which will convene in two years.

Our Basic Science law should remain as it is written on the statute. It is one of the most sensible and practical basic science laws that we have in the United States. If any unprejudiced person will sit down calmly and analyze the law what does he discover? He discovers that the law means that every person practicing any kind of a healing art must have the same preliminary qualifications. Why should that not be so? We all practice upon the same human body and to the best of my belief the anatomy, physiology and histology of people has not changed since the beginning of creation. So long as that is the case every person practicing any kind of healing art should start from the same point.

Now comes the type of legislation, referred to as meddlesome, which is always regulatory in character and constantly requires quite an amount of attention. Personally I am not particularly fond of any type of regulatory legislation as I do not believe it possible to standardize people in the way that you do machines. The progress of the world has invariably gone on through individual effort and iniative and not because of a standardization of people. Most regulatory legislation simply represents an irresistable urge and a restless itch in a portion of our population to inflict their pet ideas, their standards of living and their methods of thinking upon all other members of the human race. It is just an insane desire to regulate something and the less that that individual or group of individuals know about the thing they desire to regulate, the more wild is their desire for its regulation. Dayton, Tennessee, and the acts of the Arkansas legislature are not quite so far removed nor quite so incomprehensible as they might have seemed at first glance. That kind of regulatory legislation, if kept up, will soon bring us to the point where our science will have to be bootlegged to us as is liquor at this time and as cigarettes were for a while. One of the simplest things in legislation is to get a "fool" law passed and one of the most difficult things in legislation is to get one repealed. I do not know whether you know it or not but one of our Nebraska laws states in substance that if a man driving an automobile meets a man driving a team and if the driver of the team holds up his hand, the man in the car must stop his car at the side of the road, get out and lead the team past his automobile. In this room at this time I see a great group of law breakers because I well remember the time that our legislature passed a law, which is still a law, prohibiting the smoking of cigarettes in public dining rooms. I wonder how many times you have all broken that law today. I also wonder how many of the faculty of the medical school of our University could have continued to come to the school if the law prohibiting smoking on the property of the University would have been passed. Laws of that type simply exemplify the fact that regulatory legislation in regard to personal habits and individual characteristics will not regulate and only serve to bring into disrepute the observance of law in general. It also shows its pernicious affect in that once a law of that type is placed upon the statute books it is almost impossible to get it removed.

I am especially opposed to this type of regulatory legislation upon things of a medical or of a scientific nature. I believe that most of you know that I am personally dry but I very, very much resent the Congress of the United States laying down by legislative fiat the amount of alcoholic stimulation which I may administer to a patient within a given length of time. I also resent the fact that that same Congress takes away from me a drug, a stimulant, a food or call it what you will, which I believe at times is necessary for the welfare of my patient. For many years I have used alcohol stimulation in the treatment of various conditions so that I might carry my patients over the top of the hill. I would do it yet if I knew where to get hold of some sort of alcoholic stimulant that would not take the enamel off the kitchen sink if it came into contact with it. Some of these patients might possibly need a quart of alcoholic stimulation within a week and probably no more for five or ten years, or in fact for the rest of their lives, but under the regulation laid down by a non-scientific body you may not prescribe for one individual more than one pint in ten days and in Nebraska can not even do that. We have over five hundred men and women in the legislative branch of our National Government and there are but seven of them that know anything about medicine or who have ever engaged in any scientific study or research and because of their regulations, it is my intention to violate that law whenever I need to violate it for the benefit of my patient. It is not the function of any legislative body to lay down rules and regulations concerning scientific things without scientific advice from men who are scientists. I am not making a "wet" speech but I am simply calling your attention to some things which directly affect us and we can not deny a fact by simply turning our back upon it and saying to ourselves that it is not there. I can mortgage a hundred and sixty acres of land with less red tape and less liability of being adjudged a criminal than I can purchase one pint of absolute alcohol for scientific purposes. One other thing which creeps into the regulatory legislative idea is that states and governments are constantly demanding higher standards of education and training in the professions and as soon as a man is educated, trained and licensed as a physician under the rules and regulations which they have laid down, he immediately becomes in their eyes a potential criminal who must be watched and spied upon as though he were some type of a dangerous public enemy.

During the last session of our own legislature, it acquired the usual bunch of regulatory bills relating to the profession of medicine, none of which were submitted to doctors nor to other scientific bodies for their approval or disapproval before being introduced. There was a bill introduced which undertook to define poisons and I don't believe it can be done as the only definition of poisons that I can recall is the one that says "A poison is anything which, if taken in sufficient amount, is capable of destroying life". I will always believe that more men have dug their graves with their teeth than ever killed themselves by the taking of carbolic acid.

Some of these bills that were introduced have some virtue and perhaps a little merit in their minor details but most of them are the result of that irresistable urge which I mentioned some time ago. I understand that a bill is being planned which will provide that no vaccine, no antitoxin nor anything obtained from an animal can be injected or otherwise introduced into a human. This bill will undoubtedly be sponsored by some anti-vivisection league or the Society for Medical Freedom or some other group of that kind who believe that they have a "mission". It is a bill that must be watched because it will undoubtedly spring up in different forms and under various guises. The bill providing that animal experimentation can be done only by medical colleges, the Bureau of Animal Industry and institutions for research, I intend to violate just as often as I believe that I am called upon to do so. It is my intention to continue the use of guinea pigs, rabbits, rats or whatever other animal I may wish to use for animal innoculation and I do it because I believe the value of a human life is much greater from the standpoint of economics and the standpoint of practical Christianity than is the life of some animal.

If some of the sponsors of such bills would look back and see what used to be the terrific mortality from diphtheria, typhoid, small pox, yellow fever, tetanus and all of those other infections that were such terrible scourges, and would look at them now it might serve to clear up their addled brains on such subjects. It would be a harsh thing but it might be well for one of these to stand at the bedside of some child who was near and dear to them and who was going through a siege of diphtheria and watch it as it became slightly blue, then bluer, and finally completely cyanotic as it died from asphyxiation and passed out with those terrifying struggles for breath which those children invariably have and then to have the physician in attendance turn to them and say "But for you and your activities this child would be up, about and playing within ten days from the time that it became ill". This is not an exaggerated example and could be multiplied many, many times only varying the condition which brought about death.

If we could but take those same people who are so loud and so active in their condemnation of vivisection, animal experimentation, vaccination or the use of antitoxins and suddenly say to them that because of their extreme cruelty to animals they could no longer vaccinate their hogs against cholera, their cattle against black leg, and their sheep against anthrax they would cry aloud to high heaven because of the terrific economic loss. But a little child, who to my mind is more valuable than any animal, has to suffer because of a mistaken idea as to that constitutes kindness.

There are a great many other things in this connection which we could bring up but I bring them up now and in the way that I have because the regulation of all the professions and the attempt at the standardization of our population by legislative enactment, brings us that much closer to the communistic theory of government. State Medicine that "bugbear" of all physicians is simply communism on a small scale as communism is the effort to standardize all people and when the desire for individual effort and iniative has been taken away either by forces of law or by revolutionary measures we are approaching the verge of collapse.

It should not be that every piece of legislation introduced should start out with "It shall be unlawful". It is impossible for the untrained mind and the non-scientific individual to regulate a profession such as ours. Their lack of knowledge and of education makes it impossible for them to understand things of that nature. They do not occur in civilizations older than ours because there they are all passed upon by a central scientific body before being submitted for passage. There is but one country aside from ours where the lay population submits regulatory legislation of the scientific professions without first submitting it to a scientific body for approval or disapproval and that is Peru in South America.

I bring up these questions as food for thought because the profession of medicine has accomplished more for the world than has any other profession. It has gone ahead of civilization preparing the way so that civilization could come, it has saved millions of lives which would have been lost were it not for its ministration. It solved the greatest engineering problem of the last two hundred years. The digging of the Panama Canal was not so much an engineering feat as it was the solution of a problem of sanitation. De Lesseps had the engineering idea of the Panama Canal and it was carried out by General Goethals, the only difference being that De Lesseps had no Gorgas to sanitate the Canal Zone so that white men could live and labor there and the tragedy of the whole thing is that under present conditions our profession is the one that it seems must be regulated by non-scientific groups whose members have but one vital concern and that is "What will my action in this instance gain or lose me in the number of votes that I will be able to obtain at the next election?".

OBSERVATIONS ON THE TREATMENT OF POLIOMYELITIS WITH CONVALESCENT IMMUNE SERUM

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During the autumn of 1930, the writer had occasion to observe the results of the use of convalescent serum in the treatment of a number of cases of acute anterior poliomyelitis, and, in association with Dr. A. E. Bennett, procured a sufficient supply of immune serum to enable us to supply other physicians with serum for the treatment of their own cases in the acute or preparalytic stage.

In all, there were contacted, either directly or indirectly by report, thirty-two cases. Of these, nineteen were given treatment by convalescent serum. Of these nineteen, five had already developed paralysis at the time serum was given. Two others were infants of four and seven months, respectively, presenting acute meningeal symptoms. Of the twelve remaining cases, given serum in the pre-paralytic stage, eleven made complete recovery without paralysis. The remaining case, twenty-four hours after having received 12 c.c. of serum, intramuscularly, developed bulbar palsy with respiratory paralysis and died in a few hours. Of the five cases given serum after the onset of paralysis, one died of respiratory paralysis, two showed severe residual paralysis and two made a complete recovery without paralysis. The two infants died within a few hours after receiving intraspinal injections of serum.

Of the thirteen untreated cases, there was one death due to bulbar paralysis, five cases of severe residual paralysis, three cases of slight residual paralysis and four cases of complete recovery.

The thirty-two cases may be divided into three groups with respect to manner of treatment, and the per cent of complete recoveries compared. The first group includes those receiving no serum treatment with a complete recovery rate of 30%. The second group represents all cases treated with convalescent serum, irrespective of age and stage of disease, with a complete recovery rate of 68%. The third group presents only those treated in the preparalytic stage, with a complete recovery rate of 91.5%. Even assuming that the third group might have included cases of a mild type, it would seem, nevertheless, that we have clear evidence that convalescent serum is a valuable asset in the treatment of this so frequently tragic disease.

The use of convalescent serum was suggested in 1910 when Levaditi and also Flexner demonstrated its neutralizing effect upon highly toxic monkey poliomyelitic virus. Reports of its use in the various epidemics of 1916, 1918, 1926 and in other countries are to be found in the literature.

Mention should be made of the work of Ayer who reported the results of convalescent serum treatment in one hundred twenty-six cases. Of the total number there were eight deaths and ninety-three cases or 74% completely recovered. Of forty-six cases seen and treated in the first twenty-four hours, forty-one or 89% recovered without paralysis. These figures of 74% and 89% correspond closely to the 68% and 91% of recoveries in the total cases treated and in the cases treated in the preparalytic stage just now reported by me.

Aycock and Luther, reporting one hundred six cases treated in the preparalytic stage, record one death or a mortality of 0.9% and the very low percentage of 5.7% of severe residual paralysis.

In connection with the above report certain clinical and diagnostic features of the disease should be emphasized.

Poliomyelitis is an acute febrile disease of usually sudden onset and rapid development. It is cyclonic in its devasting action. Its symptoms may be divided into those of the preparalytic and paralytic stages. Paralysis occurs generally about the third or fourth day, though it may appear within twenty-four hours or may occur as late as ten days after onset. While the spinal form is the prevalent one, it should be remembered that Wickman speaks of eight types, towit: (1) spinal, (2) Landry's, (3) bulbar, (4) encephalitic,

(5) ataxic, (6) polyneuritic, (7) meningitic, (8) abortive.

The characteristic symptoms of the preparalytic stage are fever, usually, 102° - 103°, headache, vomiting, drowsiness, apathy, neck rigidity, tremor, pain and stiffness in the back, muscle tenderness, positive Kernig sign and a pleocytosis in the spinal fluid with increased pressure of the fluid. The cell count in the spinal fluid ranges from fifty to several hundred. Both polymorphs and lymphocytes are present early in the case.

When all of these symptoms are present, particularly in the fall, there should be no difficulty in the diagnosis. However, they may not all be in evidence. as in the case of an eleven year old child who complained of severe pain in the right lower abdominal quadrant together with muscle tenderness in the thigh. Appendicitis was the first diagnosis but on the fourth day a complete paralysis of the right lower extremity developed.

Another case showed definite polyneuritic signs with no initial fever and without increased cell count in the spinal fluid.

We should therefore be on our guard not to allow the expectation of the typical signs of the spinal form of poliomyelitis to blind us to the presence of atypical forms of the disease. In every case where there is the slightest suggestion of poliomyelitis the spinal fluid should be examined for pleocytosis.

The preparation of immune serum from convalescent patients is attended with but little difficulty. Care should be exercised to prevent hemolysis of the red cells and the staining of the serum with diffused hemoglobin. Where this is present it increases the irritative effect of the serum upon the pia-arachnoid. In the writer's experience in preparing convalescent serum it has been found that the sterilized glassware and needles should be *absolutely dry* and that the blood once collected should be agitated as little as possible.

The blood is obtained either with large glass syringes, or by applying a tourniquet and allowing the blood to flow through a large bore needle directly into sterile centrifuge tubes. These are placed in a test tube rack, covered with sterile finger cots and are not disturbed for a half hour. It has seemed that separation of the clot from the walls of the test tube is favored if, in placing the blood in the centrifuge tube, no froth is formed and if no smear of blood is allowed to occur on the tube above the upper level of the blood. After the serum has started to separate, the tubes are centrifuged for a half hour and then placed in the refrigerator over night. The next morning the serum is pipetted off and placed in large sized test tubes for inactivation. This is easily carried out by placing the tubes in water heated over a gas flame so that a constant temperature of 56° centrigrade is maintained. The serum is immersed in this water bath for a half hour, after which it is ready for use or for storage.

Storage is best secured by placing the serum in 10 or 20 c.c. ampules which may be obtained from any supply house. These can be sterilized, and when filled, hermetically sealed. The serum so prepared can be kept in the ice box for a year and will retain its therapeutic properties.

In administering the serum it has been our practice to use it only in the preparalytic or early paralytic stage. It is probable that no advantage can be derived from its use after paralysis is well established. It should be given intraspinously, twice daily in severe cases and only daily in the more moderate types. The dosage should vary from 10 c.c. to 30 c.c. according to the age and size of the patient. We have given, synchronously with intraspinous injections, 20 c.c. intramuscularly. In one critical case of bulbar type, it was given intracisternally with good results. It is rarely necessary to give it for more than two days in succession. Ample drainage of the cerebro-spinal fluid should precede the injection to avoid dangerous elevation of pressure.

There is generally a reaction to the intraspinous injection in the form of a temperature rise and an increased pleocytosis of the spinal fluid, but at no time has a troublesome reaction occurred.

Other methods of collecting the blood and separating the serum may be devised by the individual physician along lines best suited to the equipment available. The method given is that used by the writer for some years in preparing serum for the Swift Ellis treatment of neurosyphilis and has proved simple and convenient.

This brief paper has been prepared with the thought in mind that those physicians who are in contact with recovered poliomyelitic cases of recent date may be led to collect serum and have it in readiness for the treatment of cases occurring during the coming summer and fall.

The striking difference between the percentages of serious residual paralysis in the cases treated by convalescent serum and in those not so treated suggests the advisability of this procedure.

UNREDUCED DISLOCATIONS OF THE SHOULDER

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Dislocations of the shoulder constitute approximately 55% of all dislocations. The diagnosis is usually easy, therefore, only occasionally a lesion of this type is overlooked. They are very rarely seen in children, the age period being during that time considered as the prime of life. Anterior dislocation—sub-glenoid, sub-coracoid and subclavicular—is by far the most frequent lesion and is produced by hyperabduction of the arm while posterior dislocation is rare and may be due either to direct blow on the head of the humerous driving it posterior or indirectly by force on the flexed elbow with the arm in adduction as when across the chest. The complicating fractures, most frequently of the greater tuberosity of the humerus, occasionally make reduction by manipulation impossible. Fracture of the neck of the humerus with dislocation of the head is a distinct clinical entity with the dislocating feature secondary to the fracture. (Fig. 1-C).

In spite of the comparative infrequency of old irreducible dislocations of the shoulder, I had the opportunity of personally treating five such cases and assisting my associates, Doctors Lord and Schrock, in a sixth one within a seven months period during 1929. Our experience previous to this had been very limited and in reviewing the literature, we find only a small number reported and never more than two or three cases in one group. All of our cases were of the anterior type and in our review of the literature only one old posterior dislocation was found reported by Bancroft(1). This was a man 35 years of age who fell out of bed while asleep. An open operation was performed five weeks after injury, using a posterior incision and after reduction, reefing of the capsule with fixation in abduction, gave a good functional result five months later.

Writers differ somewhat in their opinion as to the length of time necessary to consider a dislocation an old one. We are inclined to agree with Key(2) who feels that after three weeks enough changes have taken place in the soft tissues surrounding the joint to make the reduction rather difficult by manipulation alone. In our group, two were reduced by the Kocher manipulation four and five weeks respectively after the injury. In one a complicating deltoid paralysis existed which, however, is not a hindrance to reduction. Finckh(3) states that statistics show, reduction was always possible in the uncomplicated cases that had been dislocated less than 4 weeks; 77% success in three to nine weeks old injuries but complete failure in all cases existing longer than 14 weeks. Meisenback(4) reports one of 16 years standing which was apparently a birth trauma with congenital dislocation. An operative procedure with remodeling of the head gave a good functional result. He was surprised to have the dislocation reduce with a very definite snap as though it were a recent injury. The difficulty in reduction, Dollinger(5) points out, is due chiefly to contracture of the subscapularis muscle which retracts when the head is in the subcoracoid position for a period of weeks. He has found that reduction becomes very simple after the division of this tendon. Straus(6) divides the old dislocations into two groups—namely, subcoracoid and subclavicular. He attributes the frequent complicating fracture of the tuberosity due either to the pull of the outward rotators—supra-spinatus, infra-spinatus and teres minor, or to a shearing mechanism by the anterior margin of the glenoid as the head slips into the subcoracoid position. The accompanying hematoma also may produce a disturbing complication if ossification takes place as in one of our patients who also had an old oblique fracture of the shaft of the humerus which occurred during manipulation in an attempt to reduce the dislocation three months after injury.

The treatment obviously is divided into either reduction by manipulation or open operative procedure. As a preliminary step in the group in which the conservative method is to be tried, we have felt that preliminary traction in bed for three days has made the reduction much easier. Obviously this tends to stretch the contracted structures about the joint and has very noticeably lessened the fixation of the head of the humerus in its dislocated position. A Bucks' extension as used in fractures of the humerus is applied with about ten pounds weight. Gradual abduction is started as the tissues relax and permit further stretching. X-ray study of the lesion as well as careful examination of deltoid muscle power determine the indications in each case. With a complicating fracture, open operation is indicated although in each case we attempted reduction by manipulation but failed. With a complete deltoid paralysis as determined both clinically and by electrical stimulation, which shows no tendency to recovery within 6 weeks, we favor resection of the head and arthrodesis of the shoulder with the arm in the optimum position of abduction and forward flexion for good function. (60° abduction and 35° forward flexion). In elderly individuals it seems the indications for operation would be absolute only where there is pressure on the brachial nerves or vessels producing pain, paralysis, anesthesia or impaired nutrition to the distal portion of the extremity.

We have used the Kocher method in our manipulations although some surgeons prefer simply the traction method with a foot in the axilla and gradually increasing abduction.

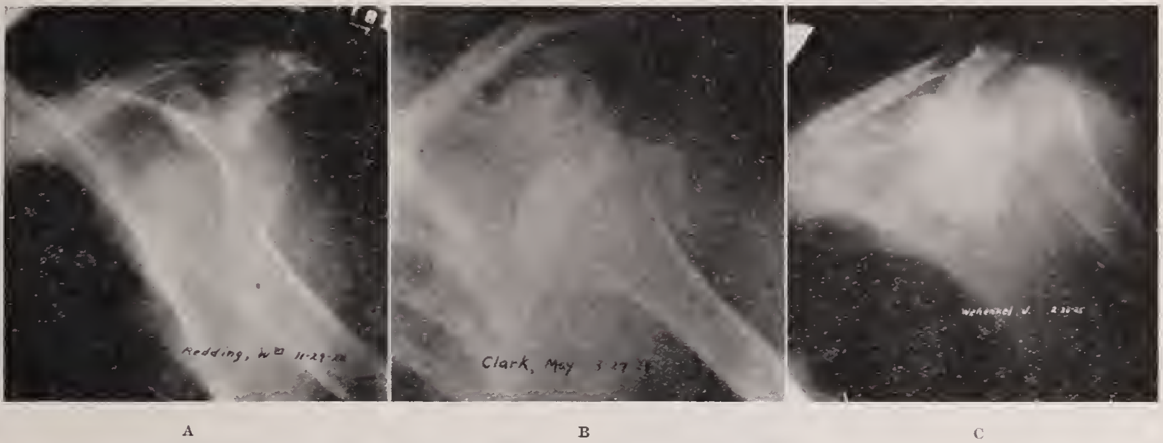

Fig. I.—X-ray films showing three types of dislocations.
A—Sub-coracoid dislocation without complications. (Case I).
B—Sub-glenoid dislocation with fracture, greater tuberosity and deltoid paralysis. (Case II).
C—Fracture neck of humerus with inferior dislocation of head. (Courtesy of Dr. Schrock).

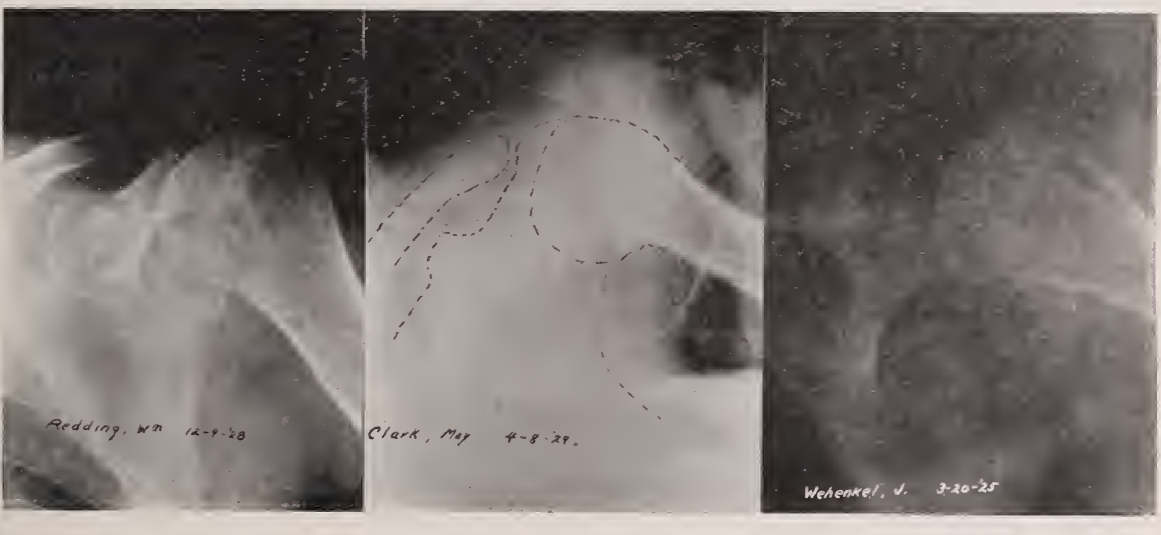

Fig. II.—Check-up films of A, B and C in Fig. I.
A—Case I with arm in slight abduction clearly shows proper relation of head to glenoid.
B—Case II through plaster cast after reduction and resection of head of humerous for purpose of arthrodesis.
C—Reduction obtained by Dr. Schrock in Case C, Fig. I, after open operation. No internal fixation used. Very good result obtained.

The operative problem and the incision should depend on the operative indications. Steindler(7) describes three approaches: two anterior linear and the U-shaped incision of Senn. The latter he points out gives a much better exposure of the joint and is preferable in either an arthrodesis or arthroplasty. As noted below we used this only in the case which required resection. The anterior approach of Langenbeck was used in three cases with Henry's(8) modification. The latter recommends detaching with a chisel, a portion of the clavicle which gives origin to the deltoid and turning this outward as a hinged flap. When the wound is closed the chip of bone with its muscle attachment is anchored back into position by heavy suture passed around the shaft of the clavicle.

After opening the capsule the head in each case was reduced by combined instrument leverage and manipulation. The capsule was repaired by reefing and the arm placed in a Velpeau dressing.

After check-up x-ray, best taken with arm in slight abduction to determine the relation of the head to the glenoid fossa, a shoulder spica was applied with the arm in about 65° abduction and 35° forward flexion. At the end of 4 weeks the roof of the arm plaster was removed and physiotherapy instituted. In 6 weeks all fixation was removed and gradually increasing motion permitted.

As noted in the case reports which follow the end result in each instance was quite satisfactory as far as follow up histories could be obtained. In the old man with a deltoid paralysis, recovery was unusually good considering his age and arthritic tendencies.

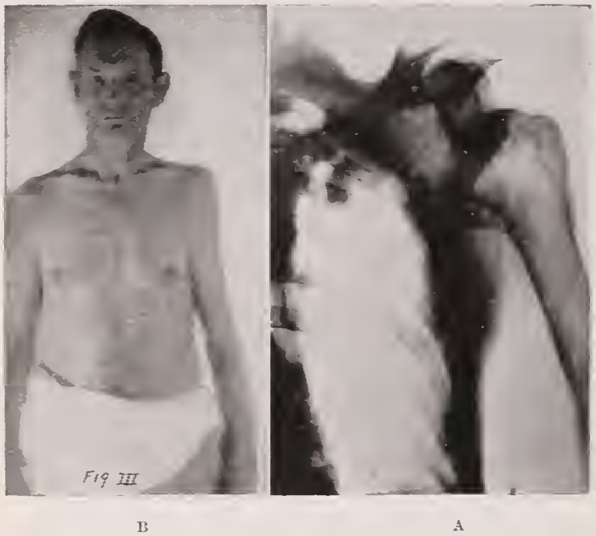

Fig. III—A—Sub coracoid dislocation with complicating ossification of inferior portion of capsule and old fracture of the shaft as a result of manipulation. First seen eight months after injury.

B—Photograph of patient showing typical signs of anterior dislocation. Shoulder flattened, apparent increase in length of arm, alteration of alignment and slight abduction.

CASE REPORTS

Case 1. No. 2740. W. R., University of Nebraska Hospital, white, age 57 years, laborer. Admitted November 27, 1928. Manipulation December 7, 1928. Discharged January 10, 1929.

Complaint: 1. Constant severe pain of left shoulder. 2. Inability to use left arm. 3. Pain in axilla.

Present Illness: Patient fell on slippery side walk about one month ago—the fall being in nature of a sideway slide. Disability of the extremity has been complete since date of trauma.

Examination: Left Shoulder: The outstanding finding on inspection is the marked flattening of the deltoid with prominence of the acromion process. The arm is held in slight abduction and appears longer than the right. Atrophy of disuse is evident.

On palpation there is almost complete fixation of the humerus and its head can be felt in the axilla. Active contraction of the deltoid is noted as attempt at abduction is made. This motion is possible to about 30° but with rotation of the scapula. Forward flexion also is possible but the entire shoulder girdle moves. Rotations are lost. There is moderate tenderness over the shoulder region.

Elbow, wrist, and finger motions are not limited. The grip is about 2/3 that of the right.

X-ray Examination: Studies made of the left shoulder demonstrate an anterior dislocation of the left humerus, without gross bone traumatism.

Diagnosis: Dislocation, shoulder, left, traumatic sub-coracoid, old-one month duration.

Indications: Preliminary traction. Kocher manipulation or by direct method and if these fail, open reduction.

Treatment: From November 28 to December 7 this extremity was in traction using moleskin adhesive and 10 lbs. weight. This produced considerable relaxation of the ligamentous structures about the shoulder joint.

Reduction: December 7, 1928: General anesthesia. Draw sheet passed under trunk high up under the left arm with traction toward the right and upward. This immobilized the scapula. The forearm was then flexed to right angles — and the elbow pushed in against the body. Very gradually outward rotation was accomplished by swinging the hand and forearm out away from the trunk. Maintaining the position of outward rotation, the elbow was brought across the trunk as far as possible and as internal rotation was begun, a distinct jump occurred and the head was seen to fill the flattened space beneath the acromion process.

The arm was then immobilized by a Velpeau dressing.

Post-Operative Course: Very little pain. States that shoulder feels right. Sensation of pressure in axilla gone.

December 11, 1928: Films made of the left shoulder demonstrate the head of the humerus in approximation to the glenoid fossa and when viewed in slight abduction and external rotation would suggest a very good position. There is considerable atrophy of the glenoid margins anteriorly.

Rebandaged to trunk.

June 1, 1929: Range of motion very good. Working full time.

Case 2. No. 28084. M. C. University of Nebraska Hospital. White, age 36 years. Housewife. Admitted March 26, 1929. Operated April 23, 1929. Discharged April 23, 1929.

Complaint: Pain and inability to use left shoulder.

Present Illness: Five weeks before admission (March 20, 1929) patient tripped on a wire and fell forward on her face with both arms extended above the head. She was able to get up with assistance but had severe pain and complete disability of the left upper extremity.

Medical treatment was instituted. The arm was set and the shoulder was strapped with adhesive. No x-ray was taken.

The adhesive was removed in two weeks and it was found that she was not able to move the arm and pain was very severe. She then reported to the University Hospital for diagnosis and treatment.

Examination: Left Shoulder: The left arm is held in slight abduction when splint is removed. The deltoid muscle is flattened and the acromion process is unusually prominent. The head of the humerus can be palpated in the sub-coracoid region. She is unable to place the left hand on the right shoulder. (Dugas sign).

Active abduction is not possible although by passive motion there is approximately one third normal range of motion in the shoulder. Flexion of the elbow is complete but extension is limited to 150 degrees. Rotations are not impaired.

Wrist and finger motions are quite free but the grip is weak.

X-ray Examination: Stereoscopic study of the left shoulder demonstrates a dislocation of the head of humerus anteriorly and downward. The greater tuberosity has been fractured through its base and displaced externally and upward. (Fig. 1 - B).

Muscle Reaction Test: March 27, 1929. The deltoid muscle does not respond to electrical stimuli.

Pre-Operative Diagnosis: (1). Dislocation, sub-coracoid, traumatic, old, shoulder left. (2). Fracture greater tuberosity, humerus, left with displacement. (3). Deltoid, paralysis, left. Secondary to dislocation.

Indications: First an attempt to reduce the dislocation by manipulation. If this fails, an open operation for the purpose of reduction and then an arthrodesis of the shoulder joint.

Treatment March 29, 1929. Ether anesthesia. Kocher manipulation of left shoulder. Three attempts with failure as disclosed both by palpation and check-up film.

Operation: April 2, 1929. Ether anesthesia. Horse shoe shaped incision 8 inches long beginning at coracoid process and extending down around deltoid, then up to acromion posteriorly. Skin and subcutaneous flap retracted up. Detachment of deltoid by resection of tip of acromion process. Muscle reflected downward. Exposure of fractured tuberosity and capsule of joint. Tuberosity removed. Capsule opened and dense fibrous tissue encountered and excised. Reduction of dislocation by combined Kocher manipulation and prying of the head. Articulating surfaces of the head and glenoid removed with broad curved chisel. Raw bone surfaces placed in contact with the arm in 75 degrees abduction and 40 degrees forward flexion. No. 2 chromic catgut passed through drill holes in head of humerus and margins of glenoid. Deltoid replaced by suturing tip of acromion in position with No. 2 chromic.

Shoulder spica cast applied with arm in position as above described.

Post-Operative Progress: The day following operation it was noted that a wrist drop was present. Temperature 100°, pulse 92. Subsequent course in hospital satisfactory except for rise of 102 degrees on seventh day and 101 degrees on the ninth.

April 11, 1929. Wound dressed, sutures removed. Moderated amount of drainage the culture of which was reported as hemolytic streptococcus.

Discharged April 23, 1929, in shoulder spica. Very slight drainage from wound. Wrist drop still present but controlled by extension of cast onto hand with dorsi flexion of wrist.

Checkup x-ray before discharge revealed through the plaster, satisfactory relationship between the humerus and glenoid. (Fig. 2-B).

This patient did not return for removal of the cast but was cared for at home by her physician.

A letter from her dated September 25, 1929, states that she is able to use the arm quite well. There is some limitation of complete extension at the elbow but apparently the wrist drop has entirely disappeared. She seemed quite satisfied with the result.

Case 3. No. 43730. G. G., Clarkson Memorial Hospital, Omaha. White, age 45 years. Contractor. Admitted January 26, 1929. Operation January 28, 1929. Discharged February 7, 1929.

Complaint: Loss of motion and pain in right shoulder.

Present Illness: On May 25, 1928, patient was struck by an automobile and sustained an injury to the right shoulder. The exact mechanism of the injury was not determined. A local physician made a diagnosis of sprain and only a sling was advised.

Because of persistent disability and pain, another physician was seen in August, 1928. A diagnosis of dislocation was made and an attempt at reduction failed. As a result of the manipulation the humerus was fractured at its mid-third. No further treatment was attempted in spite of complete disability until he reported to the office on January 26, 1929, eight months after the trauma.

Past history and general medical examination—negative.

Examination, right upper extremity: The right shoulder presents definite flattening over the deltoid region. The arm is carried in slight abduction.

On palpation the head of the humerus is found in the axilla just inferior to the coracoid process.

The acromion process is prominent with a defect just below its margin.

A callus can be felt in the middle third of the humerus and bony union is firm. All motions of the shoulder are lost both actively and passively. Any manipulation is met by resistance and pain.

Elbow motions are slightly limited in complete extension. Wrist and fingers are not limited in motion. Strength good.

X-ray examination, right shoulder and humerus: The head of the right humerus is displaced from the glenoid fossa and is resting in the sub-coracoid region. Ossification has occurred in the inferior portion of the capsule producing a bony placque extending from the neck of the humerus across to the inferior margin of the glenoid.

There is an old healed oblique fracture through the middle third of the shaft of the humerus with good position but some external angulation.

Indications: Manipulation seemed out of question in this case because of the age of the dislocation, the bony bridge in the inferior capsule region and the old fracture of the shaft of humerus. therefore open reduction was positively indicated.

Operation: January 28, 1929. Ether anesthesia. Anterior incision from level of clavicle down in sulcus between deltoid and pectoralis major. Transection of latter about 2 inches from its attachment. Reflection of sternal portion of deltoid laterally by detaching with portion of clavicle. Tendon of biceps exposed and retracted. Capsule opened and freed when adherent to the glenoid fossa. Head found covered with thin fibrous tissue. Inferior ligamentous tissue and osseous bridge divided. Head brought up into position by external rotation, direct leverage and pressure. Right hand placed on left shoulder. Capsule sutured by reefing. Clavicular attachment of deltoid sutured into place. Pectoralis major repaired by mattress sutures. Arm bandage using trunk for a splint and hand on opposite shoulder.

Post-operative course: Temperature course normal. Shoulder dressed. No drainage. Very comfortable.

February 6, 1929. Check-up x-ray with arm in slight abduction reveals slight sag of the humerus but directed toward the glenoid. Arm pushed upward and a snug shoulder spica applied with 25° abduction and forward flexion.

March 25, 1929: Roof of arm plaster removed. Check-up x-ray very satisfactory.

April 3, 1929: Entire cast removed. Active abduction to 85%. Other motions ½ normal. Arm in sling.

Case 4. F. M., age 56 years. Laborer. February 6, 1929, injury to right upper extremity. Complete disability.

Attempt at reduction failed. Seen by me at University Hospital Clinic four months after injury. Typical findings of anterior dislocation. No complications.

Treatment: Preliminary traction in bed. Kocher manipulation failed. Open reduction using anterior incision and detaching clavicular head of deltoid. Placed in abduction cast for six weeks. Very satisfactory end result.

Case 5. T. S., age 72 years. Laborer. December 21, 1928, fell with left arm in extension. Severe pain and immediate disability. Numbness and tingling in fingers of left hand. Admitted to University Hospital, January 14, 1929.

Diagnosis of sub-glenoid dislocation with complicating deltoid paralysis.

Treatment consisted of preliminary traction in bed for three days followed by manipulation.

Satisfactory reduction. Pain and numbness in fingers disappeared in three days.

Abduction splint and physiotherapy for six months.

One year later functional result unusually good. Complete return of deltoid paralysis. Abduction actively to 90%.

Case 6. E. A., age 34 years. Farmer. August 14, 1929, thrown from a horse. Complete disability left shoulder. Manipulation and apparent reduction. Continued disability.

Seen by Dr. J. P. Lord, October 18, 1929, eight weeks after injury.

X-ray revealed subcoracoid dislocation with fracture greater tuberosity.

Treatment: Kocher method attempted but failed. Open reduction by Dr. Lord followed by Velpeau dressing. Placed in abduction cast after primary healing. All support removed by December 30, 1929. Good functional result.

BIBLIOGRAPHY

1. Bancroft: Surgical Clinics of North America. Vol. 1, 1921.
2. Key: Jr. Missouri State Medical Assn. Vol. 27, No. 3, March, 1930.
3. Finch: Bruns Beitrage. Bd. 17.
4. Meisenbach: Surgery, Gynecology and Obstetrics. Vol. XLI, September, 1925, page 365.
5. Dollinger: Ergebnisse der Chirurgie und Orthopadie. Bd. 3, Berlin, 1911.
6. Straus: Surgical Clinics of Chicago. 1, 1917.
7. Steindler: Operative Orthopedics, 1925.
8. Henry: Exposures of Long Bones, 1927.

THE CAUSE AND PREVENTION OF POST-OPERATIVE PULMONARY COMPLICATIONS*

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Probably the greatest cause of death in uncomplicated operations is so-called post-operative pneumonia. Excluding local inflammation, in the majority of cases continuing to have fever after an operation, it is due to post-operative pulmonary complications. Any progress toward the reduction of these complications would therefore greatly decrease surgical risk, especially in operations upon the upper abdomen.

Years ago we quite glibly spoke of ether pneumonia. In 1917 Cutler and Morton stated that these so-called ether pneumonia cases occurred, just as commonly following operation under local anesthesia, as with ether. They considered the lung complications the result of small emboli from the field of operation. This theory was the commonly accepted one for many years. However, there are rather definite arguments against it. Emboli usually occur one to two weeks after the operation, while lung complications occur twelve to forty-eight hours after operation. The symptoms are definite; emboli having a more sudden onset, with pleuritic pain, followed in a few days by friction rub. In 50% of the cases of ordinary so-called post-operative pneumonia there is no friction rub. Most of the cases we see are after operation on the upper abdomen, and rarely after operation on the extremities, which is the opposite of what one would expect in emboli.

Of recent years there have been a large number of articles considering atelectasis as the primary cause. Bronchial obstruction, as a cause of atelectasis was first considered by Lichtheim in 1879, and later suggested by Elliott and Dingley in 1914, by Jackson and Lee in 1925, and many others since. Lee, Clerf, and Tucker verified this by bronchoscopic examination in cases of massive atelectasis. By aspirating mucous through the bronchoscope they produced a rapid reexpansion of the lung. They took this aspirated mucous and injected it into the right bronchus of a dog and thereby produced experimental atelectasis.

For the production of bronchial obstruction two factors are necessary:

1. Viscid bronchial secretion.
2. Inability of lungs to expel it.

With increased virulence of the organism the viscocity of bronchial secretion is increased. Therefore this occurs in persons with bronchitis, or who recently have had a "cold". Ether, by irritating the bronchi, may also be a factor, as is atropin which lessens the quantity of secretion, but makes it more viscid.

The second factor, that of inability of the lungs to expel secretion, may be caused by the abolition of the cough reflex by deep general anesthesia, heavy doses of narcotics, and fear of coughing because of pain. Another factor is the very shallow breathing, or hypoventilation of the lung, which has recently been found to be so common after operation, especially in the upper abdomen.

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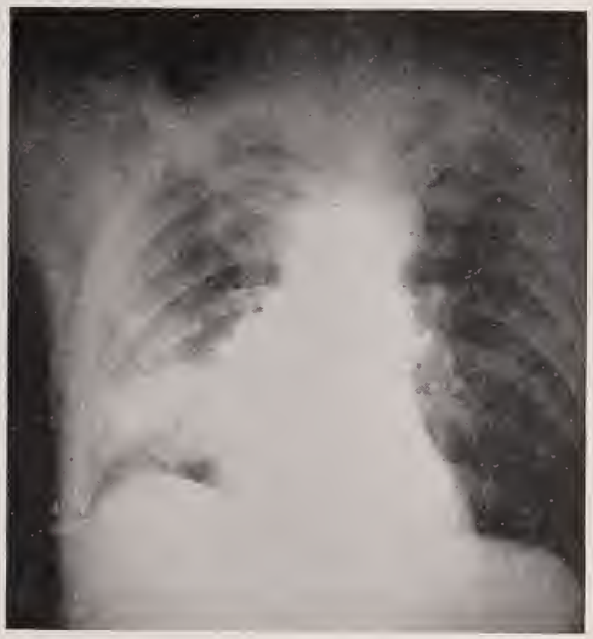
Overholt found the vital capacity reduced 64% following operation on the upper abdomen and 40% following lower abdominal operations. The diaphragm was elevated in all the cases averaging 4.8 cms. on the right, and 3.5 cms. on the left. X-ray studies in sixteen out of twenty-four cases showed density in the lower lobes, which before this study would have been considered pneumonitis, or lobular atelectasis. Chest expansion was reduced 79% on an average and diaphragmatic 66%. He found that the intensification of trunk shadows and haziness of lung fields on x-ray examination was directly proportional to the degree of elevation of the diaphragm. The patients position in bed was found to have very slight effect on the vital capacity, which was decreased less than 4% on changing from semi-Fowler to horizontal position. A tightly fitting abdominal binder applied post-operatively reduced the vital capacity 15%. Morphine pre-operatively slightly lowered the vital capacity, but post-operatively improved it, by partially relieving pain. Spinal anesthesia he found to reduce the vital capacity, while the intercostal muscles were not functioning, but a return to normal took place after the anesthesia wore off. in cases of operation on the extremities. However, in abdominal operation this return to normal did not take place, but there was a further reduction of vital capacity.

Coryllos believes that what we call post-operative pneumonia and atelectasis can not be differentiated definitely. Symptoms and signs are practically the same, except that in atelectasis there is marked elevation of the diaphragm and displacement of the mediastinum toward the affected side. He considers the difference mainly in the virulence of the organism present. If atelectasis continues a few days and pneumococcus, type 4, is present, a pneumonia will probably ensue. If pyogenic organisms are present a lung abscess may occur, or if anerobic bacteria, the result may be gangrene of the lung.

Therefore, we may consider the ordinary so-called post-operative pneumonia to develop as follows: Obstruction of the bronchus by bonchial secretions, which are not expelled because of lessened movement of the lung. Behind the obstruction the air is absorbed by the blood stream, producing atelectasis. Atelectasis persisting for a few days with the presence of pneumococci, produces pneumonia. With this idea in mind, we can do much to prevent post-operative complications. Careful cleansing of the mouth pre-operatively will reduce the number of pneumocci. Measures must be taken against hypoventilation.

In a class in Vienna, Professor Finsterer stated that in 909 consecutive gastric resections, he had not lost a case through post-operative pneumonia. He routinely for several days post-operatively had patients do deep breathing exercises several times a day.

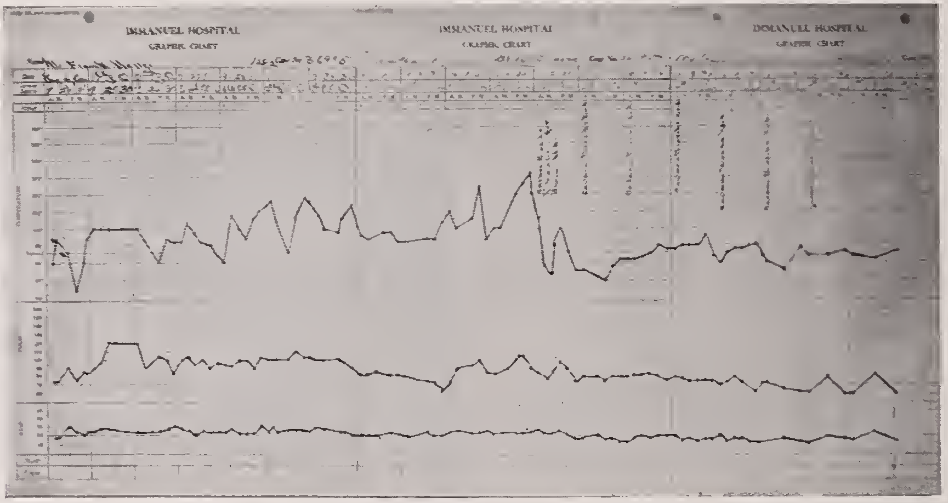
Henderson of Yale has demonstrated the value of carbon dioxide inhalations to promote deep breathing. This gets more air into the alveoli and in expelling this air, secretion and bronchi are expelled with it. Atelectasis can usually be rapidly cleared up by carbon dioxide inhalations. Five to ten per cent of carbon dioxide in oxygen is usually used for three to five minutes three times a day.



Mr. F. H. X-ray tenth day postoperative, just before beginning carbon dioxide inhalations.

Sante, for massive atelectasis, advised turning the patient on the well side and moving him back and forth, which causes coughing and expelling of the mucous. Morphine after operation has both advantages and disadvantages. It increases the pain of respiration, but on the other hand decreases the cough reflex. If atelectasis is unrelieved by Sante's maneuver, and carbon dioxide inhalations. the removal of the mucous plug through the bronchoscope should be practiced. By prevention of atelectasis we can practically always prevent the so-called post-operative pneumonia.

Mr. F. H., age 50, Immanuel Hospital 36995, in October, 1930, had a cholecystectomy. He had a rather stormy convalescence with vomiting, some abdominal distention and hiccough beginning the second day post-operative. On the fourth day, for the first time, his temperature became over 100, hiccoughing and vomiting continued. His temperature then ran from 100 to 102, his wound was not infected and the abdominal symptoms definitely improved, but hiccoughing continued. On the ninth day his condition became definitely worse with temperature to 102.4 and on the tenth day 103.2, with decreased respiration on the right side and dullness at the right base. An x-ray showed cloudiness at the right base 3 plus. At this stage we began carbon dioxide inhalations with immediate improvement of all his symptoms. The hiccoughing immediately stopped, the next day his highest temperature was 100 and after that continued normal with a perfectly uneventful convalescence. I believe that about the ninth day the mucous plug was formed and his more acute symptoms were due to atelectasis, which was immediately relieved by carbon dioxide before definite pneumonia had developed.



Mr. F. H. Temperature, pulse and respiration chart. Note drop when carbon dioxide inhalations were begun.

Since October I have used carbon dioxide, 8 per cent with oxygen, as inhalations at the close of the operation routinely until the respirations are quite deep. This "washes out" much of the ether in the lungs as well as mucus in the bronchi. The patients seem to have less distress on coming out of the anaesthesia. Then nearly all my post-operative cases have these inhalations three times daily for two or three days. The procedure is very simple and can be done by any nurse. The patients like it as they seem to feel stronger after it and nausea is often relieved. The idea is to prevent post-operative lung complications rather than waiting for these complications before beginning treatment. It may be coincidence but in the seven months I have been doing this, I have not had a single post-operative lung complication at Immanuel Hospital, where this has been carried out.

Oxygen is often given by internists to severe cases of pneumonia. This tends to promote shallow respiration. I believe it would be of great advantage to add carbon dioxide to the oxygen to promote deeper respiration and greater utilization of the oxygen. I understand that some of the newer oxygen tents are equipped for this.

CONCLUSIONS

(1) Post-operative lung complications are to a great degree preventable. The main factor in this is production of good airation of the lung. (2) This can be well accomplished by routine use of inhalations of 5 to 10% carbon dioxide in oxygen for five to ten minutes two or three times a day. (3) Carbon dioxide inhalations at the end of a general anesthetic help expel much of the ether and expand the lung, getting rid of any mucous from ether irritation. (4) Hypostatic pneumonia in debilitated and elderly people can often be prevented by carbon dioxide inhalations.

Note—Since writing the above article the author has been using 30 per cent carbon dioxide. It gives quicker and better results.

PAROXYSMAL TACHYCARDIA IN PREGNANCY

Jacob Meyer Julius E. Lackner and Sydney S. Schochet, Chicago (Journal A. M. A., June 14, 1930), report two cases. They insist that the recognition of paroxysmal tachycardia in pregnancy should put the obstetrician on his guard as to its possible recurrence during labor. The decision as to the time and method of terminating pregnancy is to be determined in each case by evaluating as far as possible the condition of the myocardium and the duration and severity of previous attacks. Paroxysmal tachycardia is to be differentiated from complications in labor, such as internal hemorrhage; premature separation of the placenta, concealed hemorrhage, shock or massive collapse of lung.

PRACTICAL POINTS IN INFANT FEEDING*

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Although there has been a marked improvement in the infant mortality rates in the United States, the fate of the infant is still rather perilous, and sufficiently so that our serious consideration of this problem at this time is both fitting and highly professional. A careful analysis of our vital statistics reveals that the lessening of the general mortality rate is largely due to the lessening of the number of deaths among infants. One author states that 33 1/3 per cent of all deaths are children under five years of age, and of these deaths the largest number occurs in the neonatal period; this is, the first month of life. A common reference gives the mortality rate as 40 to 45 per 1,000 in the first month of life. The influence of good infant care is reflected in a lessened morbidity and mortality rate in the following years of life. It is a branch of preventive medicine in which the greatest progress can be made. It is a definite appeal to our humanitarian interests and one that should quicken our social conscience.

Many factors are cited as the cause of infant mortality. However, the largest numbers arise from improper feeding methods. The profession at large looks upon the question of infant feeding with an air of indifference, and too often leaves the young mother at the mercy of her own ignorance, or to the outside influence of the neighbors and grandparents, whose advice is ardently offered, but in the main is pernicious. The responsibility of the care of the infant should always remain in the hands of the physician. He should have at his command a program of management of infants. "Management" is used because it more fully defines the problems of an infant and its environment. In no phase of medical practice is the need of the art of medicine more paramount. Often times the life of the infant is saved by the proper management of the parents.

We now desire to consider with you a few practical points in infant feeding, which have been used by us for sometime in our program of management of the infant, with very gratifying results. We appreciate that practically all that we are about to give you is common knowledge, but the mere fact that we tend to become indifferent to these simple practices is reason enough in our minds to again bring them to your attention.

In the first place, every effort should be made to have the babe nurse the breast. Encouragement of maternal feeding should be a part of the prenatal program. In breast milk nature has provided an ideal food, and it is the simplest of all methods to carry out. There are few contra-indications to breast feeding, and briefly they are: Wasting disease such as tuberculosis, severe anemia, cardio-vascular diseases, infectious diseases of long duration, and pregnancy. Syphilis is not a contra-indication to nursing—these babies above all should have breast milk and should nurse their own mother only. Mastitis should be included in this group. It is our practice to follow the recommendations of Dr. De Lee in this condition. The chief principle of his treatment is rest. One should subscribe to the idea that there is no bad breast milk, and that it is deficient in quantity rather than quality. Sedgwick and Richardson in two different studies have demonstrated that 90 per cent of mothers can nurse their young. A regular feeding schedule should be started at the beginning and strictly adhered to throughout. There is no other single factor that will be so important to the child. It helps to stabilize their nervous systems, and trains them in the formation of good habits. Newborn babes soon adjust themselves to a regular schedule. General nutrition will be better, and less digestive disturbances will be the rule in the regularly fed case.

The interval between nursings is a subject of much controversy. We favor the four-hour schedule, putting the babe to breast at six, ten, two, six, ten, two, and omitting the 2 a. m. feeding at the end of six or eight weeks if no untoward nutritional defect prevails. Clinical trial will prove that the four-hour program is most desirable. The breasts have more time to recuperate, and in a twenty-four hour period more milk will be secreted than if the breast is emptied every two to three hours. The infant, as well as the mother, has more time to rest, his appetite is always keen and he nurses with greater vigor. The argument that there is danger of over-distention of the stomach is not well founded. It has been shown by several investigators that any excess milk passes into the duodenum rhythmically.

We usually put the newborn babe to breast eight hours after delivery and then every four hours except at 2 a. m. until the milk flow is well established. One to 1½ oz. of 5% Karo-water is offered the babe after each nursing during the first week. and then plain water is offered two to three time a day but not nearer than one hour before nursing. If the Karo-water is well taken, the weight loss is never excessive, nor is inanition fever so commonly encountered. Simple jaundice seems less frequent and less intense. In case the infant does not take the fluid offered, we do not hesitate to inject 100 c. c. of normal saline solution hypodermatically. Schick, of Vienna, after experimenting with a large number of infants, came to the conclusion that the initial loss of weight was due to both lack of fluids and lack of nutrition. In an attempt to overcome this loss, he devised a mixture consisting of equal parts of cow's milk and water. with cane sugar in amount equal to 8½% of the entire mixture. He named this mixture "Kuhrog." His findings were about as follows: The mixture is well borne. makes the babe stronger, and the initial weight loss is much less; often times there is a gain. A temperature rise is exceedingly rare. We have had no experience with this particular mixture, but have tried some of the prepared foods with about the same result. The water that is given to the infant in early life should by all means be given with a nipple. thus avoiding trouble later on in giving the babe artificial feedings from a bottle. The question of whether or not an infant should be given water between feedings is often asked by the mother. Many authors contend that there is sufficient water in the milk and no additional water is necessary. Surely no harm can be done by giving extra water if it is given one hour before feedings, and in most cases the infant seems to demand it, especially in the summer season.

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*Read at the Third Councilor District Medical Society meeting, Falls City, April 23, 1931.

Practically all babies swallow air while nursing, and for this reason the nurse should be instructed to hold the babe in the upright position for five to ten minutes before and after nursing. After the mother is able to sit up it is better to have her nurse her babe in the upright position rather than lying down. When the babe lies in an inclined plane that he will naturally assume when nursed from this position, the gas bubbles will come over the cardiac end of the stomach and have an opportunity to escape.

When the mother is dismissed from her immediate post-partum care she should be instructed to carry out all orders carefully, and should be warned of the many pitfalls if she fails to do so. We find that most mothers are anxious to follow instructions, for almost without exception mothers desire to do what is best for their infants. We impress upon them the need of having their baby checked at regular periods during the first year, especially. We try to see these babies every two to three weeks the first six months, and every four to six weeks the last six months of the year. At this time the mother's story of her baby is recorded, the baby is weighed and measured, and physical examination is made and then further instructions are written out. When the mother is dismissed she should be given something to look forward to, to be gained by her next visit, as for instance the starting of some new food. This serves to sharpen her interest and will do more to bring her back to the office than anything else.

Two conditions that are most commonly met with in early life are under-feeding and overfeeding. Of the two, the former is by far the most frequent and most important. Strangely enough, however, the mother seldom recognizes underfeeding. but does bring her babe in with some digestive disturbance with the diagnosis of underfeeding, this diagnosis having been arrived at after a "heavy" consultation with officious friends. The symptoms of underfeeding are variable. The most prominent symptom is stationary weight, and in the more marked case a definite loss in weight. It is common to find these babies one or two pounds underweight at the fifth or sixth month. Babes should gain 8-9 pounds the first five months of life. The babies may or may not cry a great deal but generally their sleep is restless. They do not vomit. The stools may be small and frequent, the so-called "hunger stool", or infrequent, giving the picture of a pseudo-constipation. In any event, they are relatively small, dark colored, pasty, and well digested. The urine becomes scanty and stains the napkin. They soon present the picture of dehydration. They are pale, skin turgor is poor, and the fontanelles are sunken. The history of a falling weight curve without gastro-intestinal symptoms is sufficient evidence upon which to make a preliminary diagnosis. This can be proved upon by weighing the baby before and after nursing for three to four days. A few single weights are of no value. The treatment is rather simple; that is, supply more food, either through stimulation of the breast or complemental feeding.

The baby should never be weaned. It is well to start nursing both breasts, ten minutes on each side, and alternate the breasts at each feeding. Stripping the breasts after nursing offers further stimulation. The value of so-called galactogogues is questionable. If, after a few days' trial of extra-stimulation, there is no increase in the amount, complemental feeding should be started. Either an acid milk mixture, or a prepared food will work very well. In our hands the prepared food has proven satisfactory. It is simply administered, and is generally well borne. When large amounts are required, or a long period of complemental feeding is necessary. the milk mixtures are to be preferred.

In our experience, over-feeding is an uncommon thing, and it is a question if such a condition occurs with any remarkable frequency. Nature provides its own remedy in this condition through regurgitation. It is generally believed that overfeeding with concomitant dyspepsia is an uncommon condition on a four-hour feeding schedule. In the early case little is noted except regurgitation after nursing Later the regurgitation becomes exaggerated and there may be vomiting late in the feeding interval as well as soon after nursing. The symptoms of "colic" develop. The stools are usually diarrheal in character, containing white curds which are soap particles. When this stage is reached the weight soon becomes stationary and the baby is exceedingly irritable and rest is much disturbed.

Treatment consisting of reduction of the intake of food. This condition often leads to weaning, which is not necessary. A regular four-hour schedule should be adhered to, and lessening of the time of nursing is generally necessary. Plain water or barley water just before feeding will also reduce the intake. If the diarrhea persists, protein milk should be given. The difficulty in the first place is due to excess of fats and sugar. It is well known that fat leaves the stomach slowly, with result that fatty acids may accumulate, which reaches the maximum in the later afternoon. The vomitus in these cases has a butyric acid odor like rancid butter.

It is our practice to start cod liver oil very early. Many babies show signs of rickets at birth, so we make every possible effort to have the mother take viosterol during her pregnancy. If the babe shows the least signs of rickets, vitamine D is supplied at the end of the first week by giving 5 drops of viosterol daily. This is continued during the first month of life, and then cod liver oil is started. The dose of cod liver oil need not be large if given daily—½ to 1 teaspoonful during the first six months of life and 1 to 2 teaspoonsful in the next six months is sufficient. Of course, if sun-baths can be given there is no need for cod liver oil.

Orange juice is given at the end of the first month, starting with small amounts and gradually increasing until 2 oz. daily is given. This should be varied with prune juice and tomato juice, and especially the former if constipation prevails.

Cooked cereal is added at the fourth month. It has been a common observation to note that children who had been doing poorly made a marked change for the better as soon as starch foods were included in the diet. This was brought to the attention of the profession by McClure, who used thick feedings for neurotic vomiting, and later by Sauer who used a cereal thickened formula in dealing with pylorospasm and pyloric stenosis. Other writers report their success in dealing with malnutrition by using concentrated cereal feedings, and that in practically all cases the muscles became firm and the skin developed a high degree of turgor. Cereal should be given at 10 a. m. and 6 p. m., beginning with small amounts and gradually increasing to three to five tablespoonsful. Cream of wheat and oatmeal are used the first two months and later these are varied with the wholewheat cereals. Mead's cereal will prove a valuable addition to the infant's diet.

Two to four weeks after cereal feeding, vegetables are given. At this time the cereal is being well digested. However, in most instances starch granules can be found in the stools for ten days to two weeks after the first feeding of cereal. Peas, carrots, and spinach are the first vegetables used. They are offered at 2 p. m. and one to two teaspoonsful are given at first, gradually increasing to two tablespoonsful. Well ripened banana can be added at the fifth month, crisp bacon and dry toast at the sixth month. Baked potato, baked apple and egg yolk are given at the eighth month. Egg yolk should be given in very small amounts at the start, and especially if there is any reason to suspect allergy. If one starts all foods individually and watches closely for clinical signs of food reactions, much trouble can be eliminated. It is well to bear in mind that the foods that are most commonly the cause of allergic reactions are milk, wheat, and egg yolk. Practically all stewed fruits will be tolerated at the tenth month. Beef juice and liver juice as well as liver pulp should be given occasionally at this time. Most of our babes do well with four meals a day at nine months and three meals a day at eleven to twelve months.

It is our practice to offer a bottle of modified milk to substitute the nursing at about the fifth month. This relieves the mother considerably, and initiates the means to an easy weaning later on. The proper time to wean a baby has been a topic of much discussion. We start weaning at nine months and have them completely weaned by ten months. If one can be confident of the mother's ability to properly care for the infant's food, there need be no hesitation at weaning during the summer months.

Much could be said about artificial feeding but that would be more fittingly a subject for a symposium rather than a single paper. Only a few facts will be briefly reviewed. Cow's milk makes up the basic food in artificial preparations. Modification is carried out to make it more digestible, and to more nearly approximate the constituency of mother's milk. The more simple this process of modification the better. No one has given us a more effective scheme for feeding than Julius Hess. Briefly, it is as follows:

1½ oz. milk per pound of body weight, to which is added carbohydrates in the form of sugar, 1/10 of an ounce per pound of body weight. Sufficient water is added to make the total quantity great enough to allow the infant to have 2 oz. more than the number of months he is of age for each feeding. Hess prefers the use of cane sugar, and if other sugars are used such as dextri-maltose, he advises using 1/8 of an ounce per pound of body weight per day.

Authorities commonly state that but 15% of all babies can tolerate simple modified milk mixtures, and it is this 15% that provides anxiety for the practitioner. Marriott was the first investigator to call our attention to the fact that cow's milk has the power to unite with either alkalies or acids, in large amounts, and without much change in the reaction of the total mixture. The same reaction in human breast milk was remarkably weaker. These facts were shown in a graphic way by Faber and as a result of these investigations it is now known that the infant stomach must secrete three times as much hydrochloric acid to overcome the "buffer" value of cow's milk in order to attain optimum digestion as would have been necessary had the ingested food been human milk. Rennin production, bacterial inhibition, and pancreatic stimulation through the activity of the acid effect on the duodenal secretion depend largely if not wholly upon the presence in the gastro-intestinal tract of a chyme of optimum reaction. The curd of acidified milk is relatively small.

Marriott has made use of these facts by counteracting the buffer substances in milk with lactic acid. He advised using 6 cc. of U. S. P. solution of lactic acid to each quart of milk. The acid has to be added drop by drop to the cow's milk, which is constantly stirred. It is very important that the milk be cold. To each quart of this milk preparation he recommends that either two or three oz. of Karo syrup be added, and offer the babe as much as he cares to take every four hours. One ounce of Karo to each 10 to 11 oz. of milk gives a desirable percentage of sugar. Many pediatricians using this preparation dilute it with one-fourth part water during the first few months of life.

Many acids have been tried in modifying milk. In 1928 Gonce and Templeton began the use of citric acid as an acidifying agent. They recommend 4 gms. of dehydrated citric acid to each quart of milk, which has been boiled for five minutes and cooled to room temperatures by placing in a pan of cold water. Their results seem very satisfactory. Citric acid milk is easy to prepare and can be used without the aid of ice for cooling. The curds remain uniformly small at the height of digestion and the stools are uniformly smooth and pasty. Citric acid affects the buffer substances favorably and at the same time is free of toxic action on the kidneys. Citric acid is well liked by infants, and is very unlikely to cause vomiting or colic. We have accepted it as the modification of choice in our own practice and are well pleased with the results we have had with it. A commercial laboratory puts out a citric acid tablet of 7½ grs., that is very convenient to use.

Our discussion would not be complete if we did not mention colic. A definition is impossible because of the fact that the condition is confused, and this confusion lies in the fact that many conditions such as underfeeding, overfeeding, either quantitative or qualitative, dyspepsia, gastro-enterospsm, and "true colic" give a somewhat similar syndrome. This group of conditions also includes the spoiled child. You all well know the picture of the "colicky" baby. He has attacks of crying which are more or less periodic, and tend to have nocturnal recurrences. The baby is extremely fretful, appears as if he were angry, and moves the arms and legs frantically and tends to hold the knees on the abdomen. The skin is red and moist. The abdomen is generally distended and somewhat tense and hard. The stools are not frequent but are generally greenish and contain some curds. Vomiting is uncommon, but there is belching of gas and much flatus is passed. Change of position relieves the distress temporarily, while if the spoiled child is taken up he stops crying, and does not cry until he is put back in his crib.

Grulee states that colic is a condition caused by irritation of the mucous membrane of the intestine, producing an increased formation of gas and a spasm-like contraction of portions of the intestine. The results of these two factors are segments of bowel temporarily walled off, in which large quantities of gas have accumulated. It is his impression that the fermentation of breast milk produces the trouble. He cites the work of Bahrdt and his co-workers to substantiate his claim. These investigators have shown that the substances produced by fermentation, which are active in an irritative way to the intestinal mucosa, are the more volatile fatty acids. Lactic acid is non-irritating. In breast milk there are two substances that favor fermentation: Milk sugar and fat.

And now in contrast, we want to call your attention to the condition that White described in 1923, which he proposed to call gastro-enterospasm. In a later publication he speaks of vagogenic gastro-enterospasm as "true colic", and points out the fact that a large percentage of babies who have colic in their early life develop eczema at about ten weeks of age. He defines "true colic" as a syndrome consisting of (1) extreme fretfulness, aggravated by feeding; (2) diarrhea (bowels usually moving after feeding) plus occasional vomiting; (3) there may or may not be visible peristalsis.

The treatment of colic demands a careful analysis of the case. The most of the cases that we see fall into one of the two types just cited above. Grulee recommends the use of powdered casein before feedings and also the administration of lactic acid bacillus twice daily. For our own cases, we use a protein milk or a concentrated protein product and sodium luminal in fair-sized doses. The luminal is put up in a simple elixir mixture, using $\frac{1}{8}$ to $\frac{3}{4}$ of a grain, as necessary.

In the second group of cases, the use of atropine in doses sufficient to cause a physiological reaction, as suggested by White, is generally curative. If this remedy fails in itself, thick feedings or thick cereals before feedings plus atropine will quite likely give a nice result. Here again sodium luminal has given us good results.

In closing, we would like to commend to you the use of sodium luminal in your pediatric practice. It may be given by mouth or by hypodermic, in fairly large doses.

BIBLIOGRAPHY

1. Abt's Pediatrics, W. B. Saunders Co.
2. W. McKim Marriott, Infant Nutrition, C. V. Mosby Co.
3. McClanahan's Pediatrics for the General Practitioner, J. B. Lippincott Co.
4. Julius H. Hess, Principles and Practice of Infant Feeding, F. A. Davis Co.
5. Louis H. Barenberg, M. D., and Harold Abramson, M. D., and William H. Messer, M. D., Am. Jour. Dis. of Child., May, 1930, p. 948.
6. Jesse R. Gerstley, M. D., Chi Che Wang, Ph. D., and Agnes A. Wood, B. S., Am. Jour. Dis. of Child., March, 1930, p. 487; April, 1930, p. 729.
7. Jesse R. Gerstley, M. D., Am. Jour. Dis. of Child., July, 1930, p. 27.
8. B. Winston Jarvis, M. D., Am. Jour. Dis. of Child., Nov., 1930, p. 993.
9. J. E. Gonce, Jr., M. D., and H. L. Templeton, Ph. D., Am. Jour. Dis. of Child., February, 1930, p. 265.
10. C. G. Grulee, M. D., Med. Clin. of N. Am., May, 1920, p. 1621; Journal A. M. A., Dec. 18, 1920, p. 1701.
11. Park J. White, M. D., Am. Jour. Dis. of Child., July, 1923, p. 91; Nov., 1929, p. 935.

THE VARIABILITY OF INSULIN HYPOGLUCEMIA*

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One does not have to observe many insulin reactions without becoming impressed with the extraordinary versatility of the hypoglucemic patient. We have often heard the apologies of family, nurse, interne, and sometimes physicians set forth as follows:

> "I didn't think it was a reaction because he didn't perspire."
>
> "He didn't complain of hunger."
>
> "He didn't show any twitching."
>
> "Why he just fell asleep."
>
> "Julia was so irritable, but I never thought that that could be a reaction."
>
> "I thought he was just sore about something."

Then we hear the patient say,

> "I can't tell when they are coming on."
>
> "I know I am having a reaction but I can't do anything about it."

The past five years have seen a steadily increasing publication of what are usually termed rare or unusual varieties of insulin reactions. Ravid has summarized from the literature the variety of symptoms associated with hypoglucemia. His list runs as follows: Sensation of hunger, languor, weakness, pallor or flushing of face, perspiration, glazed or masklike facies, numbness, tingling or other paresthesias in limbs or lips, diplopia, nystagmus, tendency of pupils to dilate, tinnitus aurium, dysarthria, dysphagia, motor weakness, hemiparesis, incoordination, changes in reflexes, twitchings, convulsions, coma, psychic manifestations such as disorientation, confusion, emotional instability, delusions, obsessions, hallucinations, maniacal outbursts, aphasia, total or partial amnesia of the reaction, inconstant changes in pulse rate, heart action, blood pressure and even temperature.

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*Read before annual meeting Nebraska State Medical Association, Omaha, May 12-14, 1931.

You will readily admit that this list is quite comprehensive and leaves little that could be added.

The presence of such a varied symptomatology practically forces the conclusion that it is a mistake to think of an insulin reaction as a more or less typical event or train of symptoms. Instead we must assume a hypoglucemia whenever anything unusual occurs in a diabetic taking insulin. Too often patients, nurses and students are taught that insulin reactions consist of any early group of symptoms such as hunger, weakness or fatigue, or perhaps a peculiar sense of uneasiness, nervousness or tremulousness. Then if nothing is done the later and more severe symptoms may come on. Any other variety of reaction is apt to be termed unusual, or often is not recognized, resulting in needless delay, to say nothing of the alarm which arises in the minds of the uninitiated.

We have not seen any tabulation of the frequency of so-called unusual reactions but from our own clinical experience believe that perhaps a third or more of insulin reactions belong to what is referred to in most of the literature as unusual types of reaction.

The precaution is often taken that patients should have an insulin reaction before leaving the hospital so that they will know what to expect. This is very desirable but it should be remembered that patients will frequently vary their type of reaction and sometimes within very short periods of time. During the past three weeks we have seen two patients exhibiting this. One, a woman of 65, has a reaction in the hospital consisting of a drenching perspiration followed by marked excitability and irrationality. She went home and within a week had another reaction without any perspiration, consisting of mental confusion and stupor. The family thought of a reaction but decided it could not be because she did not perspire. They waited for a half hour and finally became badly frightened. An emergency call resulted, but before the physician could reach the house the patient was all right following a glass of orange juice. Again a woman of 35, the night before entering the hospital, had a severe reaction with marked perspiration, nervousness and unconsciousness. Two days later, in the hospital, she had a reaction which consisted merely of being sleepy. The nurse tried to get a urine specimen but the patient became irritable and finally began to cry. The nurse thought she was just peevish or homesick.

Patients are usually given the impression that there are premonitory symptoms before an insulin reaction will become serious. It is not at all unusual in our experience to see patients who cannot recognize any early symptoms before unconsciousness occurs. We have repeatedly accused patients of ignoring the early stages of insulin reactions and neglecting to take sugar to stop a reaction. We thought at first that this might be due to lack of training but thoroughly trained diabetics will reply:

> "I can't tell when they are coming on."
>
> "I don't feel a thing until it is on me and then I can't do anything."

Except in the undernourished and the debilitated individual the dangers of hypoglucemia have been exaggerated. The symptoms of hypoglucemia are so alarming to the uninitiated that it is not surprising that this exaggeration has taken place. The dangers from *too little insulin* are much greater than from too much.

It is a little surprising that insulin reactions do not result in more injuries from accidents. Patients during insulin reactions will have complete amnesia and still seem to be able to take care of themselves. We have one patient who has walked into the office several times unable to talk, with flushed face and exophthalmos, and resistive. After a glass of milk we have found out that the last he remembered he was driving a car. He had driven down town through dense traffic, parked the car, and come to the office without any recollection of what had happened. Another time he felt a reaction coming on. After a while he partly regained consciousness and automatically took some candy which he always carried. Shortly after this he woke up and found that he had parked the car at the side of the road. A policeman was standing by ready to take him to jail but after taking the sugar the patient was able to argue his way to freedom. Along this same line of self-protection, I have been impressed that patients, who are highly irritable, resistive, and who refuse to be bothered, will drink orange juice, or take milk willingly. This self-protective instinct, if you will, is an interesting phenomenon.

We wish to present a few reactions to emphasize further some of these points:

I. The mother of a 12-year-old girl called up about 6:00 p. m. because the child was in coma—she thought acidosis. When seen the child had a bright flush to the cheeks, was drowsy, but with slow heart and no Kussmaul breathing. This amount of drowsiness without Kussmaul breathing suggested a reaction. On attempting to arouse her she was very irritable and did not want to be bothered. The attempt to get a urine specimen resulted in quite a scene between mother and daughter. Finally she was given a glass of orange juice and in about 10-15 minutes she wondered what the fuss was all about. She was then very affectionate and the sudden change in personality was most striking. The urine specimen was then easily obtained. She had played hard all morning and recalled being very tired at noon and did not eat much. She lay down and did not recall anything until after the orange juice was given.

II. A girl of 22, a diabetic and a dietitian, came home one evening with cake crumbs on her coat. The last she remembered she was walking home. As near as we can find out she must have walked into a store, and stolen a piece of cake as she had not lost any money.

Another time she was picked up on the street and taken to the emergency hospital because of coma. She attracted a lot of attention and after about three hours a doctor, a friend of hers, recognized her and knew she was a diabetic taking insulin.

Again she collapsed on the street and was taken to the police station. After three hours the hospital authorities, where she was under observation, called the police station to see if she had been picked up. She recovered promptly following 10 grams of glucose intravenously.

III. A man, aged 25, had been in the hospital for a year working in the laboratory as an assistant. He was a well-trained diabetic and he stayed in the hospital as compensation for his work. From time to time in the hospital he would have reactions which usually began with a drenching perspiration. He always insisted that during this stage, which usually lasted 10-15 minutes, he felt no other discomfort. After this stage he would begin to feel nervous and jumpy although he never waited until this stage unless he was demonstrating his reaction which he liked to do. He went home and after 6 months was brought back because of attempts to jump out of the bathroom window at midnight. The same diet and insulin was continued in the hospital and after a few days he broke out with a maniacal outburst just before his evening meal. Two orderlies and a nurse could barely hold him. He talked loudly and at random, begging us to keep him away from the window, and telling me to take off my glasses because he wanted to punch my face. We tried to get a blood sugar but couldn't hold him down, so gave him two glasses of milk. We then held him forcibly in bed for about five minutes when he suddenly told the nurse, "I can see you now". His very cooperative disposition had completely returned and we quickly obtained the blood specimen. He told me that he had felt nothing unusual all afternoon. He recalled walking down the hall with towel and soap and remembered the nurse asking him if he was ready for his insulin. He said he gave a silly grin and after that all was blank. He was badly worried because he didn't know how he could tell that a reaction was coming on.

IV. A medical student, age 24, had been in the hospital working in the laboratory. He knew the handling of diet and insulin very thoroughly. We had noted that his glucose tolerance fluctuated markedly with his emotional status and with slight colds. His usual reaction in the hospital consisted of marked jumpiness and nervousness with and without perspiration. He left the hospital and some months later was picked up by the police because he was acting peculiarly. They kept him at the station for several hours, and they couldn't decide whether he was drunk, had had some dope, or was insane. He wandered around the place in a dazed manner and just looked dumb when he was asked questions. Finally he went over and sat in front of a typewriter and began playing with the keys. Someone got the idea that if they put a piece of paper in the typewriter they might get some information. After about 10-15 minutes, he put enough letters on the paper so that someone guessed that he was writing down the name of a hospital and a physician, although the words were badly mispelled. They called the hospital and from the description the patient was recognized as well as the insulin reaction. Sugar gave prompt relief. The patient's story is interesting. He knew vaguely what was wrong but he couldn't talk. He felt shut-in as if in some kind of enclosure. He had the definite idea that if he could get near the typewriter he might be able to tell the police what was the matter.

The diagnosis of insulin hypoglucemia is occasionally very difficult. A big step has been made, however, if we adopt the attitude that anything unusual occurring in a patient taking insulin may be an insulin reaction. In the absence of a history of diabetes or of insulin administration the possibility of a hypoglucemia must be considered in the differential diagnosis of such complexes as:

Delirium, mania, hysteria, convulsions, shock, hemiplegia, insanity, personality changes, and even hyperthyroidism.

The most important point here is the suspicion of the possibility of a hypoglucemia. Often an identification card. a bottle of insulin, or a hypodermic set will give the clue. The suddenness of the onset is helpful. Hypodermic marks may be absent because of the usual care in giving insulin. The failure of the symptoms to easily classify should suggest considering a hypoglucemia. The blood sugar is of diagnostic value but the delay in getting such a test performed is often embarrassing.

This vagueness in diagnosis is largely compensated by the remarkable quickness of the therapeutic test. Twenty grams of sugar in almost any form will relieve the symptoms within 10-20 minutes. Ten grams of glucose intravenously will relieve the symptoms practically as soon as injected. This therapeutic test is so quick, harmless, and decisive that it should be used whenever hypoglucemia is a reasonable possibility.

When patients are under a dietetic and insulin regime occasionally they will believe they are having a mild insulin reaction when they are not. The presence of sugar in the urine secreted at the time of the reaction is a help in recognizing these mild reactions. Occasionally the blood sugar determination will have to be resorted to, but here again the therapeutic test is of value unless the patient is using the complaint as a means of getting more food.

The causes of insulin reactions are varied but usually one of the following situations have occurred:

1. An overdose of insulin often due to error, but occasionally to an attempt to get a sugar-free specimen to send to the office.
2. Improper balancing of diet and insulin. Mistakes in calculation of diets. The figures on composition of foodstuffs leave much to be desired in accuracy. Occasionally patient or dietition has substituted too freely cake for fruit, or bread for meat, and although the figures look well a considerable change has occurred in glucose value of the diet.
3. Missing a meal, failing to eat it all, or failure to absorb the food after ingestion.
4. Changes in tolerance due to variations in an infection, or to clearing up of an infection.
5. Rise in tolerance following the disappearance of an acidosis.
6. Sudden improvement in tolerance due to exercise. Exercise may raise or lower the tolerance.

Insulin reactions tend to be more common in undernourished patients, possibly because of smaller stores of glycogen. The metabolic processes are running on a lower level so that small changes in diet, insulin, or activity appear to have a greater effect. For more or less the same reasons reactions are more apt to occur on low carbohydrate diets.

SUMMARY:

1. Any unusual symptoms in a patient taking insulin whether mild or severe should suggest the possibility of a reaction.

2. The varied nature of the insulin reaction should be explained to patient, family, nurse, and interne so that needless delay and alarm can be avoided.

3. Insulin hypoglucemia should be included in the differential diagnosis of: delirium, mania, hysteria, convulsions, shock, hemiplegia, insanity, personality changes, and even hyperthyroidism.

4. The rapidity, harmlessness, and reliability of the therapeutic test of 10-20 grams of sugar compensates for the confusion in the symptomatology of the insulin reaction.

REFERENCES:

J. M. Ravid, Am. J. Med. Sciences, 175, pp. 756-69, (June, 1928).

THE EARLY TREATMENT OF STRABISMUS*

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This topic, though quite specific in character, has been selected solely with a view to awaken more general interest. That widespread misunderstanding in regard to strabismus is prevalent has been impressed upon the writer through constant contact with the general public, with nurses and even with the family physician. To give greater diffusion to the more modern concept of strabismus and its cure is the chief reason for the discussion of the subject here.

Until about two decades ago, physicians generally seemed to be of the opinion that squint or strabismus did not require or call for any special care until children were about seven years old. This notion was based upon the unsound hypothesis that at about seven the strabismus would have been outgrown. If, as happened in some instances, the eyes were observed to become straight without any special treatment, the cases were looked upon as cured. In case they did not straighten by the seventh year, it was regarded as good practice to operate on such squinting eyes. This surgical correction only too often brought to a close the ophthalmic care.

The evolution of the treatment of strabismus is impressive in view of the fact that our present knowledge of the subject is based upon scientific and systematic studies, as well as upon the experience of extensive empirical treatment. The practical application of this knowledge, however, is anything but satisfactory when we consider the number of small school children with strabismus brought each year to dispensaries and private offices for their first ophthalmological treatment. School physicians and nurses are rendering a valuable service both to the child and to the community by their efforts to obtain proper care for their charges, although it must be stressed that the proper time for such treatment is, generally speaking, long before the child has attained school age.

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*Read before Gage County Medical Society, Beatrice, Oct. 14, 1930.

A glance at the title of this paper will indicate that the author has included the types of squint which are seen in children who are not yet of school age. Since at this period of life most eyes are hyperopic, little attention will be given to cases which are not commonly associated with hyperopia. Therefore, paralytic strabismus need not be discussed. This leaves for consideration the most perplexing group of cases, namely, the concomitant types of squint. In this group there are three principal varieties: occasional; constant unilateral; alternating. A brief reference to each clinical variety will be made later in the paper. In concomitant strabismus the deviating eye may either turn in or turn out while the other is fixing itself upon an object directly in front. When the eye turns out the deviation is known as divergent strabismus and is generally associated with myopia. The other kind of deviation; when the eye turns in, is called convergent strabismus and is almost always associated with hyperopia. Since divergent strabismus is not frequently observed in real young children, the discussion may be limited to convergent strabismus.

Occasional squint may be dismissed with the statement that practically all cases that are treated soon after the onset result in cures. It must be noted that cases which are not treated early develop into constant unilateral squints. This type embraces approximately eighty-five per cent of all constant cases of this group. In these cases the same eye is observed to converge at all times when both eyes are left uncovered. In alternating strabismus each eye is individually capable of fixing upon an object since there is very little error of refraction. But with such a strabismus a patient is unable to fix with both eyes at once.

Since concomitant strabismus has been noted to follow whooping cough, tetany, spasmophylia and many other conditions one is naturally perplexed as to the etiology. Donders held that squint was caused by a disturbance of the relation between accommodation and convergence by errors of refraction. According to Worth the essential cause is a deficient fusion faculty. There are many other theories pertaining to the etiology of concomitant strabismus, but to the writer, the observations just referred to are the most plausible and at the same time the most practical. One ought to bear in mind that no single theory of etiology suffices to explain every case of squint.

In outlining treatment for such cases one can not eliminate all the different causes as indicated by the many theories pertaining to etiology. But before any treatment is attempted the case should be thoroughly surveyed. The plan of study adopted by Worth is as follows: history; character of the squint; power of fixation in the deviating eye; movements of each eye separately; vision testing; condition of the fusion sense; angle of the deviation; refraction after thorough cycloplegia. While it is not necessary to follow Worth's scheme in detail one can not but be impressed by the completeness of his investigation. After such a detailed study has been made treatment should begin at once. The purpose of the earlier treatment is to correct errors of refraction, prevent amblyopia and develop the fusion faculty.

The term amblyopia is used to designate a deficient acuity of vision which may be arbitrarily stated as ranging from 10/200 to 20/100 Snellen, while standard vision is estimated at 10/10 or 20/20. There are cases of congenital amblyopia in which pathological lesions in the visual pathway cause the defective sight, but these are comparatively rare. In cases of strabismus it is common enough to find amblyopia due to lack of use of the squinting eye. In so far as the central vision is concerned, the earlier the onset of the strabismus, the more severe will be the resulting amblyopia (if the case be untreated). Writers upon this subject have stated that the power of fixation may be lost in from eight to ten weeks in babies less than eighteen months old.

In cases in which the onset begins between the ages of two and four years, amblyopia may develop beyond any possibility of cure; but in cases which develop at six years of age the reduction of central vision is never so great. Under normal conditions the development of visual acuity between the years of two and six is greater than over any other similar period of time. When strabismus develops early and the affected eye is not used, the degree of vision then present is not maintained. As the straight or fixing eye develops its power of obtaining accurate retinal images and the visual centers correlate in learning to provide precise interpretations, the other eye usually suffers actual visual regression. Physiological law may be cited as an explanation of the retrograde trend of the vision in the unused eye, but the patient himself aids in this change by unconsciously suppressing his actual power of vision in the eye of less visual acuity.

In the correction of errors of refraction the physician must depend chiefly upon retinoscopic examinations. Some notion of the error may be obtained when the fundus study is made, but few oculists are content to rely upon the ophthalmoscopic result alone. It is a satisfactory practice to use a cycloplegic agent three times daily for three successive days before the refractive studies are attempted. Despite its poisonous effect when carelessly employed, atropine sulphate in one half per cent or one per cent solution is the drug in all but universal use. The person who is to instill the drops should always be instructed to occlude the tear passages for thirty seconds or more after the drops are used. The same cycloplegic effect may be obtained by using an ointment of atropine in the conjunctival sac. In any case, no untoward result will follow the use of atropine except from its careless administration. When the retinoscopic examinations are repeated two or three times, the cycloplegic effect can be maintained by using the atropine only once a day. After the refraction has been determined, the correcting lenses should be procured as soon as possible. The correction should not be reduced more than one fourth diopter: and since these strong lenses would be uncomfortable when the accommodation becomes active, the cycloplegic effect should be made use of in aiding the child to adapt himself to his glasses. Obviously, the correction is to be worn at all times when the child is awake: if it is too small to wear ordinary spectacle temples, the use of an elastic band around the back of the head may be utilized to hold the lenses in their proper position before the eyes.

In very early or "beginning cases" of strabismus no other treatment except the correction of the ametropia is necessary to prevent amblyopia. But where there is a constant unilateral squint, it may reasonably be suspected that amblyopia already exists in the squinting eye. The defect in the vision must be overcome by a reeducation of the visual elements of the retina and the coordinating visual centers in the brain. This can readily be done to advantage by placing a gauze pad over the fixing eye. The amblyopic eye should be provided with its correcting lens during the exercise or training. Thus the weak or amblyopic eye is forced into service and in the absence of pathology, this exercise of the eye results in the desired improvement.

It may be well to state here that no benefit will result from this or any other treatment if it is not faithfully carried out by the child's attendant. One must therefore be prepared to meet some reluctance or even resistance on the part of the family as they may feel incompetent, or even unwilling to devote the necessary time to the treatment. The fixing eye should be occluded for as long as the child will tolerate it without a real nervous upset. This may vary in the beginning from one half hour to one half day. During the occlusion the child may be allowed to play with objects which he is able to recognize by his limited sight or he may be asked to describe the details of large pictures in books and papers. If a mother observes that her child is improving she will require no further stimulus to continue the training diligently.

When a squinting child regards an object with both eyes at once, one of several phenomena may result. First, as has been mentioned, there may be suppression of the image in the eye of less acute sight. Secondly, there may be diplopia from the images formed upon retinal areas which do not correspond. Thirdly, there may even be a temporary fusion of the retinal images in early cases, but this faculty of fusion does not persist in the absence of rational treatment. As there are different grades of fusion it is relevant that the longer the eyes have been used together, the better developed will be the fusion faculty. Conversely, the earlier a squint begins, the sooner will the fusion sense regress.

After correcting lenses have been provided it is desirable that eye exercises be enjoined with a view to developing or strengthening the fusion. These may be practiced with a stereoscope and charts made for this purpose or with an amblyoscope. The aim should always be the development of binocular vision with a perspective which represents the highest degree of fusion.

CONCLUSIONS

1. The refractive errors should be corrected early, within, say, two or three months after the strabismus becomes apparent.
2. Where a constant unilateral squint is present one may justly suspect that the squinting eye is already amblyopic.
3. The treatment of the amblyopia must be seriously and painstakingly applied in order to procure the best possible result in a given case.
4. Fusion training should be practiced in all early squinters to give them the benefit of binocular vision with perspective.
5. Certain cases of strabismus require surgical procedures to bring about a restoration of the parallism of the visual axes. However, the early treatment of strabismus is essentially non-surgical.

BLACK AND WHITE

"Sambo, where you all gwine in such a rage?"

"Ah's gwine to git that doctah what sewed up my operation with white thread."

AN UNUSUAL TREATMENT FOR ASTHMA WITH APPARENT CURE*

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This is a case report, for lack of opportunity to do so, poorly worked out and valuable only because of uniqueness.

Patient, 64 years of age, had been an almost constant sufferer from asthmatic attacks for 23 years. He suffered summer and winter, occasionally had remissions for a few days or weeks, rarely for a month. The disease was aggravated during the fall hay fever season. He was in the habit of treating himself with a smudge of a well known proprietary asthma powder unless he became unusually badly afflicted as happened sometimes, when he would call for a physician. At such times hypodermics of morphine and atropine were administered. Following such periods it was found that gradually increasing doses of iodide of potassium, beginning with 15 minims, greatly assisted in clearing the bronchial tubes. He also claimed great relief from a strictly Long product, a prescription containing 2 grs. of menthol, 2 drachms of alcohol to an ounce of syrup, teaspoonful, pro re nata. This he has used for years.

For want of cooperation no effort was ever made to study the allergy of the case other than trying the effect of removal of feather pillow and withholding for a time eggs from the diet.

The patient is a near neighbor and we came in contact many times daily. Sometimes, perhaps four years ago, I told him that we now had something that was said to give prompt relief in severe asthmatic attacks and that if he got a real severe attack sometime I would like to try the effects of it. I referred to adrenalin. Perhaps a year after this conversation he came to me and reminded me of the conversation and said he would like to try it as he had suffered severely for some days. I administered 7 minims hypodermically and he was relieved within 3 minutes. This was about 4 p. m. At 9 he called me to his house, because he was in such distress, dyspnoeic, that he could not come to the office on the adjoining lot and asked for another injection, which I gave him, but advised him that we could not keep this up right along. As he knew I would not be available during the night he waited until 5 a. m. when he insisted his wife call me for another injection. He took to bed with repeated attacks of extreme dyspnoea always relieved by injections of adrenalin.

A nurse was put on the case for night duty with instructions that adrenalin must not be administered short of four-hour intervals. The dose had to be increased to 10, 12 and 15 minims and the intervals were gradually shortened, as we felt our way blindly, to three hours. Relief was called for so frequently that it became annoying. The administration was delegated to his wife and the intervals became shorter until at times it had to be administered at 90 minute intervals and during the illness the dosage was gradually increased up to 30 minims. There were times when two doses were administered within half an hour.

During most of the illness the systolic pressure could not be recorded. His pulse was weak and rapid, around 90. Like all persons with a life history of asthma he has an enlarged heart, but with no appreciable leakage, and at times he was benefited by taking the Da Costa heart tablet.

The patient is dark skinned of a shade resembling the American Indian. During his illness he seemed to me to be growing darker and at one time I convinced myself that we were dealing with a case of Addison's disease. I held to this idea for some months, but later relinquished the theory.

After several weeks in bed he gradually got on his feet, but demanded the adrenalin injections at intervals varying from 1¼ to 4 hours and if he succeeded in going 4 hours without an injection he felt very proud of himself. This condition continued for 21 months, during which time he had five spells of extreme illness, dyspnoea, prostration, weak heart, etc.

About the first of January of this year (1930) he reported to me that he had passed a 24-hour period with a less number of injections than formerly and during the month he repeatedly showed me his little memorandum book in which was recorded his injections, always for 24-hour periods, nearly always showing a lessened number of injections. Once he came to me and said that he had gone a full half day and at one other time that he had no injection between 4:30 a. m. and noon.

On the thirtieth of January he had injections at 6:30 a. m., 11:30 a. m., 3:30 p. m., 9:30 p. m. On the thirty-first at 6:30 a. m., 11:30 a. m., 9:45 p. m. On the first day of February he had his last injection at 7:30 a. m. Since then he has felt no need nor desire for it, has gained 12 pounds in weight and feels and walks like a youngster. His gait has become light and his steps quick. Not a trace of asthma is to be noticed. He has apparently recovered. (Sixteen months have now elapsed since he was given the last dose of adrenalin. The patient has gained 26 pounds and seems perfectly well and able to do work he was unable to do for many years.) His blood pressure is 144-118. During the twenty-one months he took by hypodermic injection 306 ounces of adrenalin.

I have no well defined theory to explain the symptoms presented in this case; but one wonders whether a psychic factor entered into the case. It is to be regretted that this patient could not have had the benefits of clinical laboratory study.

DISCUSSION:

LUCIAN STARK, M. D. (Norfolk): Dr. Long did me the courtesy of letting me see this case. It was quite a dangerous thing. In twenty-one months, approximately six hundred and thirty-six days, this patient took one-half ounce of adrenalin a day. It would amount to nine drops of adrenalin every hour. This old fellow had nothing to do but keep track of the time to take his adrenalin. We all know that the use of adrenalin relieves the bronchial asthma. In general we have two types of asthma, the allergic and the non-allergic. The allergic may be divided into four groups. Inhalation, ingestion, absorption, from foci, and subcutaneous or intravenous injection. The non-allergic into seven groups. Chronic bronchitis and emphysema, pulmonary tuberculosis, cardio renal disease, enlargement of the thymus, enlarged bronchial glands, reflex broncho-spasm and acute bronchitis. Whether or not a hypoadrena can be placed in a select or a special group is a debatable question. The usual hypoadrena is due to infection or the result of infection. Addison's disease is usually assumed to be a tuberculosis of the suprarenal gland. But the point to draw the clinical line between an extreme hypoadrena and an Addison's disease is not very clearly outlined. We do know this as a therapeutic certainty that in the ordinary type of bronchial asthma where there is no cardiorenal, tuberculosis or other demonstrable causative factor, adrenalin hypodermically relieves it. So based upon pure empiricism the spasmodic type of bronchial asthma is at least to an extent dependent upon a lessened amount of adrenal secretion. Adrenalin is perhaps more of a pulmonary stimulant than it is an actual heart stimulant. Especially does that seem true when one takes into consideration the natural output of adrenalin as the route of adrenalin into the general system is a clearly defined one. It goes from the adrenal veins into the inferior vena cava so that upon arriving at the heart it is immediately pumped into the lung tissue where it becomes oxidized and following its oxidation it becomes effective. When administered hypodermically it enters in practically the same way as it goes into the right side of the heart and is then pumped into the lung where with the oxidation process again taking place it is again effective. It is a well known fact that the adrenal secretion has a great affinity for oxygen and upon reaching the alveoli of the lungs takes a great part in the absorption of gas and the promotion of the oxygen exchange. This fact has best been proven by Geo. W. Crile and others when they removed some blood from the adrenal vein and it was found invariably to take on a bright red arterial color in from one to twenty minutes after dilution with saline solution whereas the blood from the other organs failed to do that very thing. So, in case under discussion. we will have to assume that in this instance we did not have an Addison's disease, but that the spasmodic asthma was produced and was entirely due to a deficiency in the amount of adrenal secretion in that individual. The bronzing of the skin which took place could very easily have come from a diminished hydrochloric acid content in the stomach, because it is a well established fact that a deficiency of adrenal secretion is invariably responsible for low hydrochloric acid values and it is also a well known fact that vitaligo and other skin discolorations are almost invariably relieved by the administration of hydrochloric acid so that our bronzing might have perhaps been due to the deficient amount of hydrochloric. The good doctor does not tell you what the red cell count was in this case. Had there been a low red count it might have been responsible for the diminished hydrochloric acid secretion and that would have been additional evidence that the bronzing was due to a diminished hydrochloric acid secretion and that would have been additional evidence that the bronzing was due to a diminished hydrochloric acid secretion. Now what could have been the factor in the production of this case of asthma with an apparent recovery but as already stated as we know that a deficiency in adrenal secretion is due to infection and the result of infection. Could it not have been possible that we had some focus of infection with which this man battled for 21 months and that he was finally able to produce enough antibodies to permanently neutralize the infective process or that it was accidentally removed and that strain on his adrenals was removed allowing the normal secretion to be utilized in the lung and in that was relieved the bronchospasm, which was primarily responsible for his asthmatic attacks. I can see no other explanation for the result in this case except that one as of the allergic reactions were worked out we do not know whether or not he acquired an immunity to the protein or whatever it might have been that resulted in these attacks. It would be my opinion that there was no food allergy present as the asthmatic condition was so continuous, too prolonged with no spells of relief for a food allergy. We cannot say that it was an Addison's for the reason that the man is apparently well. He has no cardiorenal condition as it has been my experience that adrenalin is not effective for asthma of the cardiorenal type. He has no tuberculosis, he has been no drug user, he has continuously lived in the same community so that there would be no essential change in any inhalation allergy in which instance it would seem to me that we must fall back upon the view that this man at some time had an infection and that that infection inhibited his adrenal secretion over the period of 21 months during which time he was compelled to take these tremendous doses of adrenalin and was finally neutralized by his own production of anti-bodies or the infection disappeared in some other way.

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HYDATIDIFORM MOLE

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Mrs. N. P. C., a multipara, aged 56, presented herself for examination, August 14, 1930, complaining of weakness and loss of weight.

Past history revealed that she had been operated ten years ago for gallbladder disease.

Menstrual history: Menses started at 18. The flow at first was excessive. During the second year there was cessation of menses for several months.

Marital history: Married at the age of 20. She miscarried the first pregnancy. Cause unknown. She is the mother of nine living children, the oldest being 35 years and youngest 12 years of age. Menses started two years after birth of last child and were regular until May, 1930.

Present illness: With the May period she suffered severe pelvic pain necessitating rest in bed for several days. At this time she flowed for three weeks, ending June 10. Her breasts became larger and tender and she felt as though pregnant. She felt very weak and a sensation in the pelvis as though "there was something which should get out but couldn't." No show of blood until August 12. During the summer she was nauseated after meals, felt tired and weak and lost 10 pounds in weight. Slight odorless leucorrhoea. Slept a large part of the time during June and July. Some headache and dizziness and low backache. Kidney and colon function good.

Examination revealed a rather old looking woman weighing 131 lbs., mm. pale. Throat negative. Thyroid palpable. Pulse 96-100. Tremor of hands and arms. Heart and lungs clear. B. P. 110/65. Abdomen negative.

Vaginal: Relaxed perineum, marked rectocele cervix badly lacerated with chronic endocervicitis. Bleeds easily. Fundus enlarged, irregular outline, anterior and rather firm.

Urine: Catheterized, pale straw. Sp. Gr. 1,031, acid. Urates 1-plus.

Blood: Hb. 75, R. B. C. 3,840,000, W. 7,800, N. 45%. Small mono 50%. E. 3%, B. 2%.

Basal metabolism test, plus 60.

Clinical diagnosis: Active thyroid, abnormal uterine pregnancy with possible malignancy of fundus.

Operation: August 20, 1930. Curettement, mass of loose tissue with typical cystic grape-like arrangement of hydatidiform mole. Cauterization of cervix.

Insertion of 50 mg. radium into fundus for 48 hours. Pathological examination did not reveal any evidence of chorio-epithelioma.

P. O. Examination: October 2, 1930. Uterus contracted, cervix raw. Weight 135.

Letter dated April 9, 1931, states that she is feeling fine. Has had no vaginal discharge since November, and weighs 145 lbs.

COMMENT

Hydatidiform mole occurs in about 1-20,000 cases of pregnancy. Malignant changes are present in 50% of recorded cases. As the condition most frequently occurs in elderly multipara, I believe that radium is indicated in practically all cases as a safeguard against chorio epithelioma.

DIAGNOSIS AND PROGNOSIS IN PEDIATRICS

John Lovett Morse, Boston (*Journal A. M. A.*, Nov. 29, 1930), asserts that in a large proportion of the children seen in private practice it is evident from the history, provided it is taken carefully, what the trouble is or, at any rate, where to look for it on physical examination. Observation of the parents and child during the taking of the history often shows, incidentally, that the trouble is psychologic rather than physical. The physical examination almost always makes the diagnosis plain, provided, again, it is a complete and thorough one. A physical examination is not complete, of course, or worthy of the name unless the child is stripped and examined from head to foot. After taking the history and making the physical examination the physician should know what the trouble is, that it is one of two or three things, or that he has no idea what it is. The last diagnosis is, moreover, a thoroughly satisfactory one, provided it is arrived at after proper consideration. If the diagnosis is evident, it is unnecessary to carry out any laboratory procedures unless. for some reason, it seems advisable to corroborate it. If the diagnosis lies between a few diseases, only those laboratory procedures should be done which will aid directly in the diagnosis between these diseases. If the physician has no idea what the matter is, he should not flounder around trying all sorts of laboratory procedures and taking roentgenograms of the whole body in the hope that he may get hold of something, but should call for help. The object aimed at in diagnosis is not simply to give a name to the trouble which a child has but to understand just what is wrong with him in order to treat him properly. The diagnosis should include a definite conception not only of the pathologic changes in the individual instance but also of the deviations from the normal physiologic processes caused by them. Treatment, to be rational, must be based on these conceptions and on what is known of the etiology, not on a name. The most important thing from the point of view of the family is the prognosis. Relatively, it cares little what is the matter with the child. It wants to know whether he will get well or not and, either way, how long he will be sick. Incidentally, whether the child lives or dies, it wants him to be made as comfortable as possible and to have the illness cost as little as possible. The prognosis depends on a knowledge of the usual course of the disease, the severity of the disease in the individual instance and the resistance of the individual patient. The ability to appreciate the severity of the disease in the given instance and the resistance of the given patient and, therefore, the ability to make a correct prognosis can be acquired only by experience. If the family has confidence in its physician and the child dies, it is "an act of God," no matter whether the diagnosis was right or wrong, the treatment good or bad, or what the prognosis. If the family does not have confidence in its physician, the death is due to his negligence, no matter whether his diagnosis, treatment and prognosis were absolutely correct.

HABITUAL DISLOCATION OF THE SHOULDER

Melvin S. Henderson, Rochester, Minn. (*Journal A. M. A.*, Nov. 29, 1930), reports forty operations on thirty-seven patients. Anterior capsulorrhaphy, done on sixteen patients for anterior recurring dislocation, resulted in cure of 37.5 per cent; all of these operations were done more than ten years ago. Three patients who underwent posterior capsulorrhaphy for posterior dislocation remained well. Of eight patients who underwent Clairmont operations more than five years ago, 50 per cent were cured. Tenosuspension performed on ten patients has resulted in cure in 100 per cent of cases to date; in two cases the operations have been done for more than five years; in two, for more than three years; in one, for more than two years; in two. for more than one year; in two, for more than eight months, and in one, for more than six months. The success of the operation depends on the careful placing of a strong piece of the tendon of the peroneus longus muscle to act as a suspension ligament through drill holes in the acromion process and the head of the humerus. The incisions can be kept small in size, which is a worthy consideration in women.

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AN INTERESTING ANNUAL MEETING AND CONSTRUCTIVE LEGISLATION

There was a registered attendance at the annual meeting just held in Omaha of 420, almost a record, with perhaps twenty-five forgetting or neglecting to register their attendance. Annual dues paid at time of meeting totalled 1157 members, which is about normal at annual meeting time.

Experience proves that possibly twenty-five memberships are paid each year after the annual meeting. If these figures mean anything they mean that interest in organized medicine endures and is increasing in spite of present economic stress. When 420 medical men and women attend an annual meeting they are attracted by a program and they expect to get something worth while—and they were not disappointed this year.

The annual meeting opened promptly with one hundred in the auditorium, several sessions were crowded to capacity and the meeting closed at five o'clock of the last day with nearly one one hundred present. Every essayist on the program and each of the seven guest speakers were on hand and the presiding officer kept the program moving. The guest speakers were: Dr. Fred L. Adair, Professor Obstetrics, University of Chicago; Dr. J. C. Litzenberg, Professor Obstetrics and Gynecology, University of Minnesota Medical School; Dr. Buford G. Hamilton, Kansas City, Mo.; Dr. Edgar J. Huenekins, Associate Professor, Pediatrics, University of Minnesota Medical School; Dr. Evarts A. Graham, Professor Surgery, Washington University School of Medicine, St. Louis; Dr. Ernest Sachs, Professor Clinical Neurological Surgery, Washington University School of Medicine, St. Louis; Dr. Fred Rankin, Rochester, Minn., all of whom gave masterful addresses in their special lines.

Much of a constructive nature was accomplished in the House of Delegates. A strong report was presented by the committee on medical defense. The report of the Delegates to the A. M. A. was a well digested document replete with information for the profession. A resolution was passed that leaves no doubt in the mind of any one that the organized medical profession is in favor of tuberculosis eradication among cattle, a problem that took much of the time of the Nebraska Legislature recently and it is hoped will have some influence on the forthcoming special session.

Constructive legislation of a high order is contemplated by the House of Delegates by the appointment of a committee consisting of the president, the secretary, the chairman of the council and the chairman of the committee on medical education, with full authority to proceed, if they see fit, to employ a director of public activities and to feature postgraduate courses in a number of places in the state during the year. This contemplates bringing home to the profession postgraduate work usually obtainable in large cities only. Looking further ahead it is also expected to further widen the scope of the work of the public activities committee, which has accomplished so much the past few years.

The annual banquet was an unusually interesting event, the ballroom being crowded with tables and every seat was occupied. Dr. Lucien Stark, president, gave a vigorous address on certain phases of medical economics, which was well received by the audience.

The Noguchi Medal was awarded to Dr. Olga Stastny, Omaha, of which more later.

Dr. Arthur E. Cook, Randolph, was elected president-elect.

RELATED ACTIVITIES IN OMAHA, ANNUAL MEETING WEEK

Activities in Omaha related to medicine during annual meeting week, numbered six, foremost among which we must place the program of the public activities committee of the Nebraska State Medical Association. Short talks by 34 physicians were arranged for at as many stores, industrial plants, churches, schools and luncheon clubs, for the week. These health talks must do an infinite amount of good.

The Nebraska Tuberculosis association held a meeting May 11th and presented a full program. Dr. Charles O. Giese, Colorado Springs, was guest speaker. Dr. Francis W. Heagey, was re-elected president.

The Nebraska Association of Medical Women, held its meeting in Omaha, coincident with the meeting of the Nebraska State Medical Association. Dr. Ruth Warner, Lincoln, was elected president.

The Woman's Auxiliary to the Nebraska State Medical Association held its annual meeting with several luncheons and business meetings. They had as guest speaker Mrs. George H. Hoxie, Kansas City, Mo., Past President, Women's Auxiliary, American Medical Association. Mrs. Clyde Roeder, Omaha, was elected president-elect.

The X-ray Technicians Association of Nebraska had an annual dinner and program on the evening of the eleventh of May.

The Nebraska Ophthalmological and Otolaryngological Association had an annual meeting, dinner and program May 11, at the Fontenelle.

A BILL OF RIGHTS FOR THE HANDICAPPED CHILD

The handicapped child was the object of a great deal of consideration in the White House Conference on Child Health and Protection. There are 45,000,000 children in the United States below the age of eighteen. Ten million of this number are called "handicapped". Formerly they were regarded as a liability to society but of late years we are wont to think of them as potential assets.

The rights of the handicapped child were defined by the Conference—to as vigorous a body as human skill can give him; to an education so adapted to his handicap that he can be economically independent, with a chance for the fullest life of which he is capable; to a home environment that will aid him in carrying his burden, that will not set him apart from healthy children nor look upon him with scorn or pity; to a life rich in comradeship, love, work, play, laughter, tears and the joy of achievement.

In this group of handicapped children we find:

3,000,000 with impaired hearing.
17,000 totally deaf.
50,000 partially blind.
15,000 totally blind.
300,000 crippled.
400,000 tuberculous.
850,000 suspected cases of tuberculosis.
450,000 with heart lesions.
2,500,000 with well marked behavior problems.
6,500,000 mentally deficient (as newly defined).
850,000 definitely feeble-minded.
5,650,000 intellectually subnormal.
150,000 epileptics.

In addition to all these children who are physically and mentally handicapped there is a much larger group who are socially handicapped, largely as a result of poverty.

Adult handicapped persons make for a very large social and economic loss to the country. For the lack of proper and timely training of handicapped children there accrues an enormous class of dependents and this group is rapidly increasing as life becomes more and more complex. In this machine age the deaf, the cripple, the blind and the mentally dull have increasing difficulties to overcome. The child has a birthright—one that will give it a fair chance in life. He should first be born right, his parents should be selected with the care that will insure spiritual endowment, a healthy body, a sound mind, proper home environment and adequate educational advantages. Equality of opportunity is the keynote of democracy, but these opportunities are not to be standardized; they must be adapted to individual needs and individual capabilities inherent in the individual. Specialized treatment must be afforded the child that departs widely from the normal. Recognition of individual differences is of the utmost importance if the child is to be given the maximum of opportunity for growth and development.

The problem of the handicapped child is a challenge to the Nation and particularly to organized agencies equipped to deal with such problems. In order that the utmost may be done there is need for greater knowledge of the problem and for adequate facilities for diagnosis, treatment and training of the physically and mentally handicapped. Unless society meets its obligations to these unfortunates they become social and economic liabilities. In a large measure the needs of the handicapped child are those of the healthy child but there is need for more intensive application in education, medical care and vocational training in this group. In the care of the handicapped there should be a "differentiation of methods and procedures to provide the special kind of education and medical service required by the special needs." "Successful vocational adjustment of the handicapped child is the practical test of any program formulated for the child."

—Palmer Findley, Omaha.

TICKETS TO THE AMERICAN MEDICAL MEETING AT PHILADELPHIA

Special train and special car service Chicago to Philadelphia is offered by the railroads for June 6, 7, 8, and 9. One and one-half fare for the round trip on the certificate plan has been authorized. Under this plan you pay full fare for your ticket going and get a certificate from your agent, (not a receipt), to be presented to the secretary of the convention for validation which entitles you to purchase a return ticket for half price.

NONMEDICAL DIRECTORS OF STATE DEPARTMENTS OF PUBLIC WELFARE

Dr. H. J. Lehnhoff, Lincoln, Neb., before the annual Congress on Medical Education, Medical Licensure and Hospitals (*Journal A. M. A., April 25, 1931*) said in effect: In 1919, Nebraska adopted the code system of administration. The department of public welfare was one of six departments created. The law does not state that the secretary of the department of public welfare shall be a layman. During the first two years under the code system, the department was in charge of a nonmedical man, for the next two years it was in charge of a physician, and for the last six years it has been in charge of an attorney.

There are probably some advantages in having a layman in charge of the department. If there is a physician in charge there is apt to be more friction than if there is a layman in charge. This is particularly true as regards the attitude of the osteopaths and the chiropractors. There has been no friction between the laymen who have had charge of the deparment of public welfare during the past six years and the osteopaths and chiropractors. These cults think that, since a physician can be in charge, it might be possible for a representative of their cult to be head of the department of public welfare. Such a circumstance is possible. Anything can happen in politics. In the Nebraska legislature in 1926, the chairman of the committee on medical societies of the house of representatives was a Christian scientist. This year, the chairman of the committee on medical societies in the senate is a chiropractor. All in all, a layman meets with less friction than does a physician in meeting the problems that come up as regards our relationship with the cults.

Some of the problems coming before the child welfare bureau are medical problems. Under the system there are ways by which medical problems can be referred to a physician. There are many problems that come before the department that are not medical problems. We think that Nebraska has been fortunate in that the last two secretaries of the department have been men well qualified in law administration. They are both men of high character and good judgment. Now, what is the advantage of having a physician in charge rather than a layman? The majority of the duties of the department are those that pertain to medicine, the practice of medicine and the allied professions, and the matter of public health. These duties and problems need not be enumerated here. They are well known. It is natural to conclude that these duties and problems could better be under the guidance of a physician. Of course, he must have the capabilities naturally sought in a layman whom we would put in charge of the department, with a broad knowledge of medicine, sanitation and public health.

There is another point: The problem of state medicine is before the profession, constantly knocking at our door. As a rule we do not feel that this form of medical practice should be carried too far. To surrender the department of public welfare to a layman is probably surrendering some of the jurisdiction of the medical profession. The more we permit laymen to take charge of bureaus and organizations which are created to execute projects that are medical, the more we approach the status of state medicine. While the profession is not wont to surrender these positions, I feel that we are doing so. We permit laymen to have charge of child welfare societies, of tuberculosis associations, physicians have pretty well dropped out of the Red Cross movement, and many organizations interested in mental hygiene are under the direction of laymen. A conference was called by President Hoover to consider child welfare, and out of fifty-two members of the President's committee, one was a physician. The more that members of the profession relinquish positions that have to do with health matters, the more we are approaching the status of state medicine.

Briefly, the secretary of the department of public welfare should be an executive, with good judgment, and with a personality that does not create conflict and that without offense irons out minor differences of opinion. He should be able to some extent to interpret law. He should have the abiilty to correlate the activities of the several subdivisions of the department. If we could have these qualities in a physician, and in addition have in that physician an individual who had a knowledge of things that apply to medicine and public health and their allied branches, such a physician would be sought.

STATE MEDICINE! BOGEY-MAN! BOO! BOO! BOO!

Who's afraid? Yes, that's the real question. Who should be afraid?

As a doctor, I decline to be alarmed to the usual degree witnessed when you hear the common statement among doctors, "State Medicine. It sure is coming." In my judgment the common people are the ones who SHOULD be alarmed, and it is high time that doctors stop this foolish, harmful psychology and begin to see through the difficulty which confronts our profession and people of the land so far as this big medical and health problem is concerned.

SOME COMPARISONS WITH PRESENT FORMS OF STATE MEDICINE

Attempt for a moment to visualize what can be meant by, "Some form of State Management of Medicine". Try to visualize some state or federal management of the work now being done by practicing doctors. To do this. I believe you have a right to attempt comparison with known activities of the present and the past in similar lines. What state, county, or municipal hospital, of what state, county, or medical service under appointed position, can you think of in Nebraska or any other state, where there is a service now being rendered equal in efficiency to the service rendered by private practitioners in the corresponding localities? It is common knowledge, and indeed even admitted by the boards of control, that the services in these institutions are below par. Remember, please, I am not criticizing; I am only calling attention to facts. What one of these above named institutions or county or city or municipal medical services would you be willing to consign your brother, your child, or your friend to, in anything except extreme, uncontrollable circumstance. The present and past history of all of these attempts on the part of the state or its subsidiary bodies to manage medical care of the sick and wounded falls uniformly far short of what the common people demand as the proper service for their sick and injured. Is it not fair, therefore, in attempting to visualize what state medicine might be in the future, under the management of the federal, state, county, or municipal bodies, to emphatically call attention to this comparison? Stop being frightened as doctors when state medicine is mentioned, and instead, begin to offer to those thinking people of your respective communities, such facts and comparisons.

CERTAIN OTHER REMEDIES

And again, point out the inadequacy of such medical services as have been repeatedly offered by fraternal and insurance groups: The Eagles, The Elks, The Moose, and now The Prudential. Never will such "job lot" services seriously interfere with medical and health administration in any country so highly enlightened as the U. S. A.

Some system of budgeting for sick care may come through lay sources and no one should be more pleased with it than the medical profession. A man is compelled to budget for his household furniture, the clothes for his family, and even his auto and radio and other luxuries. If he don't do it, his respective merchants do it for him, and the goods are returned promptly if not paid for. Now if in some adequate manner he would budget for medical and hospital costs, much of the problem would be solved.

Still again, if health education and health examination and other preventive medical measures are taught the laymen, much of the problem would be solved. Health education for the people undoubtedly offers the biggest contribution of the present decade from organized medicine. If we as medical men and medical organizations would better coordinate and cooperate to this end, we would again help solve still more of the problem.

Three decades ago, medical education found itself at such a level that the service in the United States of America in medical and health ways was far below that in the correspondingly civilized countries of the world. There were too many medical schools, too many doctors, and most of each were poorly qualified. It remained for the medical bodies to see and correct this difficulty. It was done largely by the American Medical Association and the Association of Medical Colleges. I believe it is a corresponding task and duty of the medical world today to engage itself more directly with the modernization of serving the sick and injured. We cannot do this by handing the wheel over to laymen. We must visualize for the thinking people. the destructive resultant tendencies when such suggestions are offered.

Begin yourself, today, in your contacts with the people. Forget the harm that may come to your own practice. Put the matter on a higher plane of altruism, so characteristic of the disciples of Hippocrates. Think, talk, and demonstrate how the common people would suffer if the present system of administering efficiently to the public in health and medical ways should be inadvertently consigned to political regime for management.

Direct your efforts at the lay people through repeated counsel with those organized lay bodies operating in your community and attempting to disseminate health education. There are many of these—the Parent Teachers Association; 4-H Club; Women's Clubs; the Y. W. and Y. M.; the Scouts, etc. All of these organizations are attempting health education in various ways and at frequent intervals. Many times they are illy advised in their attempts. Organizations of such a kind are here to stay. They furnish a definite uplift in their communities. In other words, they are TO BE, but they are not TO BE LET ALONE, so far as health teaching is concerned. A little correct guidance on your part, in your community, after a studied effort, would do much to disseminate correct health education throughout these avenues. In turn it would do much to shield the common people against the evils of State Medicine as it now threatens.

Secretary Ray Lyman Wilber's committee, now making its five-year survey on the cost of the care of the sick, is not yet making a destructive case against the practicing doctor or the present efficient hospital. Without doubt, constructive criticism will come from this great survey. The medical world will meet with open mind and due thankfulness, any such offering this or any other committee may have. It will add their suggestions to the long list of others, and continue as in the past, its constant effort to elevate standards of service to the people on health and medical lines, whether curative or preventative.

You know these are facts. Cease being afraid. Rather, direct your conversation to lay friends, to the harm that is to come TO THEM if they direct, by their will and vote, that there should be some form of state or political management of things medical. Point out how they would thus kill the goose that lays their golden medical egg, and you will thereby place the fright where it should be, and in my judgment help materially the medical world in performing one of the important tasks now before it.

STATE MEDICINE! WHO'S AFRAID? WHO SHOULD BE AFRAID? THE DEAR PEOPLE, NOT THE DOCTOR.

FIFTY YEARS IN SURGERY: DR. JOHN E. SUMMERS

Within recent weeks occurred the fiftieth anniversary of the graduation of Dr. John E. Summers of Omaha from the College of Physicians and Surgeons, New York City. Dr. Summers does not care to be the object of notice in this connection, but he has been too much a part of the history of aseptic surgery and surgical pathology in Nebraska to let the event pass without this slight notice. His activity and interest in the newer things in medicine is attested by his recent work with Normet's solution.

Last fall a portrait of Dr. Summers by J. Lawrie Wallace, was unveiled at Clarkson hospital in commemoration of his long and distinguished service to the institution and to modern surgery. A half tone made from the portrait and short sketch of his career was published in the December, 1930, *Nebraska State Medical Journal.*

VETERAN PHYSICIAN HONORED: DR. ZACHEUS L. KAY

The medical profession is proud of its veteran physicians and it is not unusual to honor those who have been in practice fifty years, but it remained for the Red Willow County Medical society to honor April 22, 1931, with a banquet and talkfest attended by forty physicians and their wives, Dr. Zacheus L. Kay, who has been in practice fifty-five years; forty-seven of those years at McCook, Nebr. Dr. B. B. Davis, Omaha, who began his professional work at McCook and had intimate social and professional relations with Doctor Kay gave the principal address.

DR. ZACHEUS L. KAY

Dr. Z. T. Kay was born at Georgetown, Ohio, August 1, 1849, grew up on a farm near Pontiac, Ill., and after graduating from high school attended Wesleyan University at Bloomington, two years and was graduated from the Medical Department, University of Louisville, in 1875, and served one year as interne in the Louisville City hospital. He then located and practiced at Cullom, Ill., for seven years and served as division surgeon for the Illinois Central railroad. He located at McCook in the spring of 1884 and with the exception of seven years spent at Joplin, Mo., has been in continuous practice there. He was surgeon for the Burlington Lines at McCook for thirteen years.

Dr. Kay may well be proud of the fact that he knew Dr. Samuel D. Gross, and listened to lectures by such noted men as Dr. T. Gaillard Thomas, Dr. Austin Flint Sr., Dr. N. S. Davis I, and Dr. Edmund Andrews.

Dr. Kay availed himself frequently of opportunities to do postgraduate work in Chicago.

Dr. Kay, now eighty-two, still sees patients in his office daily.

Dr. and Mrs. Kay, who were married in 1887 have two sons, three grandchildren and three great-grandchildren and there has never been a death in the family.

LOCAL SELF GOVERNMENT OR NATIONAL AUTHORITY

There are always those who are willing to surrender local self-government and turn over their affairs to some national authority in exchange for a payment of money out of the Federal Treasury. Whenever they find that some abuse needs correction in their neighborhood, instead of applying a remedy themselves they seek to have a tribunal sent on from Washington to discharge their duties for them, regardless of the fact that in accepting such supervision they are bartering away their freedom. Such actions are always taken on the assumption that they are a public benefit. Somewhere, Lincoln said something to the effect that tyrants always bestrode the necks of the people upon the plea that it was for their good. He might have added that the people suffered the rule of tyranny in the hope that it would be easier than to rule themselves. We have built our institutions around the rights of the individual. We believe he will be better off if he looks after himself. We believe that the municipality, the State, and the Nation will each be better off if they look after themselves. We do not know of any other theory that harmonizes with our conception of true manhood and true womanhood.—Address of President Coolidge before the Society of the Daughters of the American Revolution, April 16, 1928.

THE EDWIN SMITH SURGICAL PAPYRUS, IV

A Gaping Wound of the Head with Compound, Comminuted Fracture of the Skull: "If thou examinest a man having a gaping wound in his head, penetrating to the bone, smashing his skull; thou shouldst palpate his wound. Shouldst thou find that smash that is in his skull deep, and sunken under the fingers, while the swelling that is over it protrudes, he discharges blood from both the nostrils, and both his ears, he suffers with stiffness of the neck so he is unable to look at both shoulders, and his breast thou shouldst say regarding him: One having a gaping wound in his head penetrating to the bone and smashing his skull, while he suffers with stiffness of his neck. An ailment not to be treated. Thou shalt not bind him, but moor him to his mooring stakes until the period of his injury passes by." (Case V).

Comment: Smashing his skull means smashing it into numerous fragments, which sink into the interior of the skull.

PROCTOLOGIC HINT NO. IX

Anal or rectal bleeding in infants is most frequently due to a fissure or to a polyp. A digital examination should be made to determine the presence of a polyp which may be located quite high in the rectum.

—L. E. Moon, Omaha.

The world is blessed most by men who do things, and not by those who merely talk about them.—James Oliver.

Dear Reader:

The Journal and the Cooperative Medical Advertising Bureau of Chicago maintain a Service Department to answer inquiries from you about pharmaceuticals, surgical instruments and other manufactured products, such as soaps, clothing, automobiles, etc., which you may need in your home, office, sanitarium or hospital.

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Perhaps you want a certain kind of instrument which is not advertised

Perhaps you want a certain kind of instrument which is not advertised in the Journal, and do not know where to secure it; or do not know where to obtain some automobile supplies you need. This Service Bureau will give you the information.

Whenever possible, the goods will be advertised in our pages; but if they are not, we urge you to ask the Journal about them, or write direct to the Cooperative Medical Advertising Bureau, 535 N. Dearborn St., Chicago, Illinois.

We want the Journal to serve you.

EDITORIAL PARAGRAHPS

Lest some of our readers are short of ideas on publicity we append the professional card of one of our osteopathic neighbors:

> **Physicians and Surgeons**
>
> **General Practice**
> **Acute and Chronic.**
>
> **We specialize in Obstetrical work. In the non-surgical treatment of Varicose Veins and Ulcers. Hemorrhoids (piles), fistula, fissures and pruritis (commonly called itching piles). Sinus trouble, hay fever, catarrah and asthmatic conditions. . . . . . .**

Now, then, they sprinkle vitamines from a salt shaker onto their food. *E. pur se muave!*

"Man's Chance of Reaching Age of 200 is Discussed" says headline in the press; but let us neither worry nor rejoice for we "would not live alway".

A biologist says that muskrats keep any wound clean by constant licking, and if the flesh becomes infected they do not hestitate to gnaw it away.

As a result of a survey, *Medical Economics* states that one-third of all doctors in practice forty years are in rural practice, while only 13 of the youngest group are so located.

Two new ads appear in this number of the *Journal*—The C. V. Mosby Co., St. Louis, Publishers and The American Maize Products Co., New York City. Read the ads and patronize the advertizers for they make this *Journal* possible.

We may as well admit that the cigarette habit will soon become well-nigh universal with both sexes. It will be interesting to know what the effect of cigarette smoking will be 25 years hence, on the growing boy and girl of today.

The American Proctological Society will hold its annual meeting in Philadelphia, June 7-8-9—just preceding the annual meeting of the American Medical Association. All ethical practitioners are invited to attend the second and third days of the meeting.

Referring to scholarship as an index to success in medicine, we recently overheard one of the foremost medical men in the state say that if one divided students into three classes with reference to scholarship and could make a survey fifteen years afterward, the survey would show the middle third the most successful practitioners. Something to think about.

Dr. W. S. Baer, Baltimore; professor of orthopedic surgery at Johns Hopkins University School of Medicine and one of the leading orthopedic surgeons of America died April 7, 1931, of cerebral hemorrhage, aged fifty-eight years. He developed the maggot treatment of osteomyelitis. He spoke before the Omaha-Douglas County Medical society last October on Infectious Arthritis Deformans.

That birth control or decreased fecundity, or both, is responsible for nearly twice as many childless families in cities as compared with country districts is indicated by an analysis of hitherto untabulated and unpublished data from the federal census made public by the Milbank Memorial Fund. Among women 40 to 49 years of age, 16 per cent of those living in cities were childless, as compared with 9 per cent of those living in the country.

Based on those reported in 1930 the *Journal A. M. A.* analyses the causes of and ages at death of 2,943 physicians. The average age at death was 63.7 which causes those who have passed that period in life to take due notice. The largest number of deaths, 447, occurred between 60 and 64. There were 130 accidental deaths and 66 suicides. Of the suicides, strangely enough most of them were by shooting, in spite of physicians' familiarity with poisons. Heart disease is given as the cause of death of 1,059 and 242 died from cancer.

The movement for the care and treatment of mental patients in general hospitals in the United States has made marked progress during the past decade, according to a survey by The National Committee for Mental Hygiene which is to be published shortly. Six hundred hospitals were questioned as to the existence of clinics and psychopathic wards and of the four hundred and twenty-five that replied 122 reported special facilities; 17 reported incidental service and a total of 3,298 beds for mental patients were reported.

After a good deal of discussion covering over four months, between the county board and the Platte County Medical society over the matter of medical and surgical care of county charges, the board recently entered into a contract with Dr. J. North Evans, Columbus, to do all medical and surgical work as county physician for $1,800 per year plus mileage outside of city limits. This arrangement has the merit, at least, of being business-like. The organized profession must insist on its rights in the care of the country's wards, and the above is cited as one example of a way to do it.

The Tenth Presentation of Hospital Statistics by the Council on Medical Education and Hospitals of the American Medical Association is before us in pamphlet form, reprinted from the *Journal A. M. A., March 28, 1931.* It includes only hospitals registered by the American Medical Association, that have qualified for interne training, etc., we take it. Some very well thought of hospitals in this state are omitted. We quote —"Not included in any of the lists or statistics in this issue are 540 institutions which because of alleged unethical or criminal practices, admission to their staffs of members who are seriously unqualified, either morally or professionally, flagrant methods of advertising or for other valid reasons, are deemed unworthy of being included in any published list of reputable hospitals. The exclusion of such institutions from the Council's published lists marks the development of an aggressive campaign to establish safeguards against irresponsible or malicious institutions which are a menace to the public. For these reasons, therefore, they are excluded from the lists of institutions held out as worthy of receiving the public's patronage. The 540 unregistered institutions have only 14,142 beds."

THIS MONTH IN MEDICAL HISTORY

June, 1931.

John Mapletoft born in 1631, was a practising physician in London and a friend of Willis, Sydenham and Locke. When about fifty years old he took orders obtained the rectory at Braybrook, Northamptonshire. He preached until about eighty years old and lived to the age of ninety-one. He translated Sydenham's observations into Latin.

Robert Liston (1749-1847) came from Edinburgh to the chair of Clinical Surgery at the University College London in 1834. He had already published his Elements of Surgery in 1831. He was an exceptional anatomist and one of the great surgeons of his time. One of his most celebrated exploits was that of having amputated a thigh with one hand while compressing the artery with the other.

James Syme (1799-1870) and Sir William Ferguson (1808-2877) made important contributions to the same period. Syme in 1831 published "Excisions of Diseased Joints" and Ferguson although he later moved to London was made surgeon to the Edinburgh Royal Dispensary in the same year (1831).

In 1831 Samuel Warren (1807-1877) of London, published two volumes of "Passages from the Diary of a Late Physician". They appeared first in Blackwoods Magazine and were widely read. A third volume was published in 1838.

Phillippe Ricord (1799-1889) born in Baltimore and a graduate of Medicine in Paris, was the first to establish the distinction between gonorrhea and syphilis. He gave adequate descriptions of the diseases and overthrew the teachings of John Hunter and others as to the identity of these diseases. His first work along this line was done during the year 1831.

Sir Robert Carswell (1793-1857) who became Professor of Pathology at the University College in London, completed in 1831 a series of two thousand drawings in pathology. This was published in 1831 with engravings on stone made by the author himself.

James Hope of Edinburgh, published a book on Diseases of the Heart and Great Vessels, in 1831, which constituted one of the early important contributions to our knowledge of heart murmurs and valvular disease. His atlas of plates of anatomy consisted of reproductions of his own drawings.

Henry VanDyke Carter (1831-1897) made a number of original investigations and contributions to our knowledge of mycetoma. This was published in 1874. He published the results of his investigations into leprosy and elephantiasis during the same year.

May 24, 1831, Wills Eye Hospital was founded in Philadelphia. The first building was completed in 1833.

In 1831, Sir Benjamin Collins Brodie discontinued his clinical lectures at St. Georges Hospital London, but continued as Senior Surgeon until 1840. After 1831 he continued the custom of an annual lecture to the students.

Among the early methods of wound treatment were those which consisted of making applications of various kinds to the dressing or to the instrument which caused the wound rather than by treatment of the wound itself. One of these methods employed a solution of green vitrol out of which new crystals of the same substance had been obtained by evaporation in sunlight. Another was by the application of a special ointment to swords or spears in the effort to heal the wounds caused by them. The latter was made the subject of a discourse in 1631 by William Foster, on Hoplocrisma spongus, or a sponge to wipe away the weapon salve.

NECROLOGY

Herbert H. Waite, Lincoln, Nebr.; native of Leverett, Mass.; University of Michigan Medical School, 1901; A. M., Amherst, 1903; since 1902 on the staff of the department of bacteriology, University of Nebraska and since 1913 head of the department; in the medical corps of the army during 1918 and 1919; member Nebraska State Medical Association and of numerous special scientific bodies; delegate, 1930, from Nebraska to the International Congress of Hygiene and Demography at Dresden; author of "Disease Prevention" published in 1926; died of heart disease, April 25, aged about sixty-one years.

McDonald Ryan, Danbury, Nebr.; Chicago College of Physicians and Surgeons, 1915; practitioner at Danbury since graduation; member medical corps, during the World war; member, Nebraska State Medical Association; president, Red Willow County Medical society at time of death; died April 12, 1931, of a heart affection following upon a recent severe attack of pneumonia, aged forty years. He leaves a widow, two daughters and a son.

Henry F. Leedom, Kearney, Nebr.; Ensworth Medical College, St. Joseph, Mo., 1893; member, Nebraska State Medical Association, died March 27, 1931, of myocarditis, aged sixty-three years.

David J. Bartlett, Venice, Calif., University of Nebraska College of Medicine, 1892; in his early practice said to have been located at Scribner, Nebr.; died February 18, 1931, of pneumonia, aged eighty-three years.

TRAINING FOR MEDICAL RESERVE OFFICERS AT THE MAYO FOUNDATION, ROCHESTER, MINNESOTA, AND WASHINGTON UNIVERSITY SCHOOL OF MEDICINE, ST. LOUIS, MISSOURI.

Through the courtesy of the authorities at the Mayo Foundation, Rochester, Minnesota, and the Washington University School of Medicine, St. Louis, Missouri, arrangements have been made whereby there will be given a period of fourteen days inactive duty training for Medical Reserve Officers, without expense to the government. The dates of this training are as follows:

Mayo Foundation, Rochester, Minnesota, October 18th-November 1st.

Washington University School of Medicine, St. Louis, Missouri, November 8th-November 22nd.

These courses present to Medical Reserve Officers a two-fold advantage: (a) Medico-military instruction; (b) Refresher course in professional subjects. The courses are so arranged that a Reserve Officer can devote his morning hours in any of the clinics or other purely medical professional studies he desires. The afternoon and evening hours will be taken up entirely with medico-military subjects. The custom of taking annual study courses has become so general among medical men that argument about its advantage is unnecessary. Furthermore patriotic motives of a Reserve Officer in the interest of National Defense and his advancement in the military service have created a desire for periodic instruction in Medical Department Reserve matters. These two great medical centers have provided the ways and means whereby the two-fold purpose can be accomplished.

For the past two years inactive duty training to Medical Department Reserve Officers has been given during the fall months at the Mayo Foundation, Rochester, Minnesota, for a period of two weeks. The authorities of the Mayo Foundation provided the facilities, including instructors, offices, class rooms, etc., necessary to carry on the school. All expenses incurred, except the salaries of the members of the Regular Army were borne by the Foundation. The Washington University School of Medicine have offered the same facilities, including clinical instruction in the various branches of medical practice and the clinical material, laboratories, museums, libraries of the school and lecture rooms without charge. A group of faculty members have volunteered to give instruction and hold clinics during the period of training.

At our first inactive duty training camp at the Mayo Foundation most of the students were Fellows of the Mayo Foundation or otherwise connected with the Mayo Clinic. A few were physicians from other parts of the Corps Area, who profited by having the mornings free to devote to observation of the work at the Clinic. The attendance at this school for the first year was thirty-three (33). The following fall, 1930, another two weeks period of training was provided with the same facilities as in the previous year by the Mayo Foundation. Fifty-one (51) Reserve Officers received instruction during this training period. The school was originally established because of the difficulty in granting leave to the Reserve Officers at the Mayo Clinic for camp training in July because of the fact that this was the rush season at the Clinic. After conducting two of these camps the authorities at the Mayo Clinic summarized the advantages as follows:

a. A Reserve Officer in convenient periods of the year receives stimulating personal instruction along military lines.

b. It provides preparation for taking examination for the next higher grade.

c. It affords a Medical Officer the satisfaction of knowing he is better fitted for his present rank.

d. It provides for the combination of military training with a professional observation course at the medical center.

Great interest was shown in these two courses and many of those who attended emphasized the importance of such a course on account of the dual purpose offered a busy doctor, namely, training for the duties required of a military surgeon and the opportunity for a refresher course in any specialty of medicine.

All applications for the course of training at the Mayo Foundation should be made to the Director of the Mayo Foundation through the Surgeon, Seventh Corps Area, and applications to take the course at Washington University School of Medicine should be sent to the Dean of Washington University School of Medicine through the Surgeon, Seventh Corps Area.

—Geo. A. Skinner, Colonel Medical Corps, Surgeon.

DRAINAGE FIRST; REMOVAL LATER

Editor, The Nebraska State Medical Journal:

I have read, with a great deal of interest, Dr. B. B. Davis' article on "Why is the Mortality in Appendicitis Increasing?" I believe the removal of the ruptured appendix is the principal cause of the increased mortality. I may be old fashioned but until someone can show several hundred ruptured cases with a mortality below ½% I shall continue to drain my cases and remove the appendix at a later operation, preferably about two months after drainage.

When I was a young man I assisted one of our prominent Chicago surgeons for two years. It was the custom when I began, to remove all ruptured appendices with a mortality of over 50%. Fortunately, before I left his service, he began draining and the patients quit dying, the mortality dropped from over 50% to ¼ of 1% which I believe is as high as it should be. Only moribund cases will die. If the abdomen is opened and adequate drains carefully inserted, patient put in Fowler position, normal salt intravenously or subcutaneously and glucose will save nearly 100% of all rutpured appendices whether walled off or not.

—C. EDWARD SAYRE, M. D.

TUBERCULOSIS ABSTRACTS

A REVIEW FOR PHYSICIANS

By The National Tuberculosis Association

When as a young man Sir Robert Philip, now professor of tuberculosis in the University of Edinburgh, announced his intention of specializing in tuberculosis, one of his wisest and kindest teachers said, "Don't think of such a thing. Phthisis is worn to a very thin thread. The subject is exhausted." Fifty years of untiring labor and leadership have dimmed neither the zest nor the perceptions of this pioneer. Recently, Sir Robert delivered the Malcolm Morris Memorial Lecture on "The Outlook on Tuberculosis." After reviewing the past, he sounded the call for fresh orientation. Advanced disease of the lung, he said, has absorbed most of our interest in the past; it is time to shift attention more and more towards the earliest indications of tuberculosis infection. In this number of "Tuberculosis Abstracts," there is space only for comment on this phase of tuberculosis control. Sir Robert Philip's interesting and comprehensive monograph was published in the British Medical Journal of January 10, 1931.

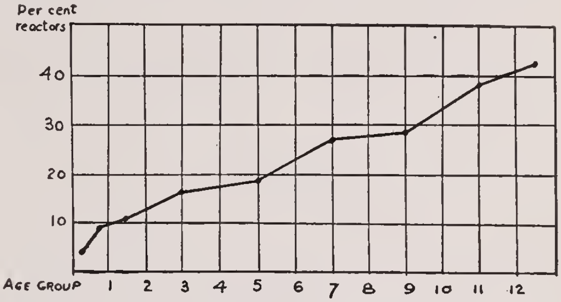
DETERMINING EARLIEST INDICATIONS OF INFECTION

Pulmonary tuberculosis is in reality a late, visceral manifestation of an infection contracted much earlier. The author has had opportunity in numerous instances to trace the development of tuberculosis in the same subject in ever-changing form from the seed stage up to full fruition; in some instances, for 30 years or more. The ebb and flow—the arrest and advance of the disease—are but expressions of the continuing contest between the invading organism and the resistance of the tissues of its host. While the invading organism is presumably little changed save in respect of numbers, the resistance offered varies endlessly as a result of intercurrent illness; accident, strain, and a host of environmental influences. Infection is the crossing of the frontier—the beginning of what is often a lifetime contest.

SCIENTIFIC ANTICIPATION

The hope of preventing the endless possibilities of subsequent mischief following infection led the author some years ago to recommend the systematic examination of contacts. The next step was to advise the search for the earliest traces of tuberculous infection in every child. As infection takes place most commonly during childhood, the tuberculin test, he believed, should become routine practice at stated intervals from early infancy onward. So long as the reaction remains negative, nothing further is necessary. Whenever a positive reaction is obtained for the first time, the fact and the date should be recorded on the permanent medical history of the child.

If, after positive determination, the health of the child continues thoroughly good, we have the knowledge that the child's resistance is sufficient, and there is no call for treatment. On the other hand, the positive determination may illuminate many after-events. Vague conditions of "delicacy" in the child may find their explanation—for example, malnutrition, obscure feverish attacks, ill-defined lack of energy, so-called "disturbed action of the heart," which may interfere with the claims of education and sport. Such conditions are very frequently the expression of tuberculous infection. Further, the occurrence of incidental illnesses, such as measles and whooping-cough, will call for watchfulness, and care will be taken to secure complete convalescence after such attacks. The doctor will insist on the maintenance of a high level of resistance, more particularly in relation to school life, the period of adolescence, and the time of entrance into more responsible life.



DETERMINE THE FACT AND DATE

Preventive medicine may wisely take a lesson from the sphere of agriculture. The practical farmer who seeks to raise a tubercle-free herd has learned the value of the tuberculin test. A method for the early detection of tubercle which is worth the farmer's while on economic grounds has still greater significance and wider efficacy—bath medically and economically—in dealing with the human race.

Sir Robert Philip would not make a formal distinction between reactors and non-reactors but recommends the routine practice of determining the fact and date of the initial infection in every child. That is a service which might well commend itself to the American physician, who is growing increasingly interested in preventive medicine and strives to render to his families a positive health service.—The Outlook on Tuberculosis: Changing Orientation, Sir Robert Philip, The British Med. Jour., Jan. 10, 1931.

PAPER STIMULATED WIDE INTEREST

Sir Robert's paper immediately stimulated much discussion among the medical profession of England and Scotland. The comments were, on the whole, favorable and reflected the deep respect which is felt by doctors and laymen for the genius and leadership of the author. To him, said one writer, is due almost entirely the present favorable position of the campaign against tuberculosis. The comments, together with Sir Robert's final rebuttal were printed in subsequent issues of the British Medical Journal. Some of these are briefly abstracted below.

Robert Carswell raised this question: Supposing the fact and date of tuberculization has been duly noted in relation to each child; what practical use is now to be made of the information? Excluding specific methods of immunization or "detuberculization," Sir Robert Phillip's answer, he says, is too nebulous. He believes that a more definite attempt should be made to immunize the child (presumably by some form of vaccination). In spite of many failures, there has been sufficient success with preventive immunization, supported by ordinary hygienic measures, to make it more than a hope, and he submits that a demonstration to prove the value of detuberculization is the next most important step in the campaign against tuberculosis.

TEST A CLUE TO SOURCE OF INFECTION

John Gibbens takes issue with that part of the essay which implies that malnutrition, obscure feverish attacks, lack of energy, and the like may be the expression of tuberculous infection in a child who reacts positively to the tuberculin test. Tuberculosis carries with it too great a stigma to justify anyone in diagnosing it easily in such delicate children. The value of the positive Mantoux test, he says, lies rather in stimulating the doctor to get the child back to full health as rapidly as possible. Gibbens admits that knowledge of the fact of tuberculization is extremely important but for another reason; namely, that the earlier the age at which a positive reaction is found, the more likely is one to find the adult that is disseminating the infection.

W. Camac Wilkinson emphasized that the environment of the child is the source of infection. Too much attention cannot be paid to the environment of the child if we wish to tackle infection at its source. "Neither fresh air nor sunshine can prevent tuberculosis in children living in the houses of consumptive parents."—The British Med. Jour., Jan. 24, 1931.

Sir Robert Philip in his answer disclaims responsibility for misunderstandings voiced and reiterates that to the question, "Have we reached finality?", an emphatic negative must be given. He repeats his plea for the systematic search for, and determination of the fact and date of initial infection in every child, primarily so that the information may be kept in view throughout the further life-history of the individual in order that, if indications of progressive tuberculization supervene, they may timeously be met by measures of detuberculization.—The British Med. Jour., Feb. 7, 1931.

UNITED STATES CIVIL SERVICE EXAMINATIONS

The United States Civil Service Commission announces the following-named open competitive examinations: Medical Officer, Associate Medical Officer, Assistant Medical Officer.

Applications for the positions of medical officer, associate medical officer, and assistant medical officer in general medicine and surgery will be rated as received by the United States Civil Service Commission at Washington, D. C., until June 30, 1931.

The examinations are to fill vacancies in the Departmental Service, Washington, D. C., Veterans' Bureau, Public Health Service, Indian Service, Coast and Geodetic Survey, and Panama Canal Service.

Competitors will not be required to report for examination at any place, but will be rated on their education and training, and on their experience.

Applicants must have been graduated with the degree of M. D. from a medical school of recognized standing. Certain specified training or experience is also required.

Full information may be obtained from the Secretary of the United States Civil Service Board of Examiners at the post office or customhouse in any city or from the United States Civil Service Commission, Washington, D. C.

THE SOCIETIES

The regular meeting of the **Omaha-Douglas County Medical Society** was held in the Medical Arts Auditorium, May 28, President Pinto in the chair.

Dr. Raymond Rice presented a case of tumors of the peritoneum of fifteen years duration in a man 59 years of age. The patient presented a largely distended abdomen with large quantities of fluid. 12000 c.c. of fluid had been drawn from the abdomen several days ago.

Dr. A. S. Rubnitz opened the scientific program with a talk on "Electrocardiography in Pathologic Heart Conditions", illustrated with lantern slides, and Dr. F. W. Niehaus followed with a talk on "Electrocardiographic Findings in Conditions Other Than Irregularities", also illustrated by lantern slides. These papers were discussed by Drs. Bliss and Traynor.

The last paper of the evening was by Dr. Frank Conlin and his subject was "The Treatment of Pernicious Anemia With Dessicated Stomach Extract." This paper was discussed by Dr. Victor Levine.

—Herman Jahr, Sec'y.

The regular meeting of the **Lancaster County Medical Society** was held in the Sharp Building on April 7, 1931, the president, Dr. S. E. Cook, presiding.

The first paper of the evening on "Care of the Newborn" was read by Dr. E. V. Wiedman. He pointed out that the great majority of deaths in newborn are due to prematurity, congenital debility, birth injuries, hemorrhagic disease of the newborn, infections and congenital anomalies. Certain infections existing in the mother contribute to newborn deaths. Birth injuries are contributed to by forceful deliveries and the use of pituitrin. He stressed the importance of a complete physical examination as soon as the baby is delivered. Frank cases of intracranial hemorrhages permit easy diagnosis, but milder cases are often difficult to differentiate. Twitching, convulsions, bloody spinal fluid and attacks of cyanosis are indications. He advocated repeated spinal fluid drainage as the treatment in this condition. Hemorrhagic disease is treated by the intramuscular injection of whole blood and the essayist advised the use of whole blood in prematurity, and congenital debility. He advocated feeding 5% glucose solution following nursing until the flow of breast milk is well established in all cases. The treatment of premature infants consist in maintenance of body temperature, prevention of infection, proper nursing care, exercise and food. The best food is concentrated breast milk produced by boiling milk to one-half its original quantity and adding enough sugar to make the baby gain. Dry, condensed or protein milk may be substituted if necessary. He stressed the importance of recognizing cleft palate, pylorospasm and pyloric stenosis and combating them as early as possible. The important routine measure consists in proper weighing, regular nursing, complemental feeding when necessary, cod liver oil and orange juice and the treatment of hypertonic conditions when they arise. The paper was discussed by Drs. Warner, Morgan and Wiedman.

The second paper was read by Dr. H. J. Lehnhoff on the "Diagnostic Importance of the Finding of Enlarged Hearts." His paper dealt only with chronic conditions. This group of patients usually ambulatory, he grouped in three classes; first, those who have no symptoms; second, those in which the symptoms are vague and third, those who have been told there is something wrong with the heart. In every class the problem of determining the existence of any cardiac disease arises. A rapid rate may indicate a cardiac disease, any irregularity in rhythm, a forceful systolic beat and a systolic murmur all may indicate cardiac disease or be of no importance. An enlarged heart, however, indicates serious trouble and decompensation will ensue. Enlargement may be said to be present if the apex impulse is in the nipple line or mid-clavicular line or to the left of that point or if it is below the fifth intercostal space. Percussion outline is helpful but less accurate. Enlargement of the heart may not occur in mitral stenosis, but it almost always occurs in aortic disease, pericarditis and hypertensive heart disease, in the latter it often being the only cardiac finding. In most cases of coronary disease the heart is enlarged but severe conditions may exist without enlargement. Insurance statistics infrequently show enlargement of the heart because it is not recognized at the examination, but they indicate a distinctly higher mortality rate where this condition exists. In conclusion he pointed out that physicians fail to recognize enlargement, not because of incompetency, but because of failure to search for it. The paper was discussed by Drs. Covey, Mitchell and Lehnhoff.

The regular meeting of the **Lancaster County Medical Society** was held in the Sharp Building on April 21. The guest of the evening, Dr. Ray M. Balyeat, was entertained at dinner at the University Club by about fifteen members of the society. Dr. E. L. MacQuiddy of Omaha was a guest at the dinner and meeting. Dr. Balyeat, who is president of the Association for the Study of Allergy, addressed the society.

The address was divided into two parts. During the first part a motion picture film in color was shown and commented upon by Dr. Balyeat. This film dealt with the types of allergic disease, depicted patients suffering from asthma, hayfever and eczema and demonstrated the principal plants causing allergy. It also showed other agents causing allergy including animal dander and foods. The second phase of the paper was handled by the use of still lantern slides and was a fine presentation of the clinical manifestations. Dr. Balyeat emphasized the importance of family history in the diagnosis of allergy and showed the incidence of allergic disease through several generations in a number of families. He pointed out the association of allergy with migraine and sometimes epilepsy in some of these families. He stated that he has come to believe that migraine is frequently allergic in its essential nature and hypothesized that the symptoms may be due to allergic pathology located in certain portions of the brain and presented arguments in favor of this hypothesis. He stated that he had found certain cases of migraine associated with definite sensitivity to certain foods and that in these cases the withdrawal of the food improved the condition. In conclusion he stated that he felt that allergic manifestations occur because of stimulation of the parasympathetic nervous system and that the effect of adrenaline can be explained by its counteraction on the sympathetic nervous system. In the discussion Dr. Balyeat emphasized the importance of skin testing using the scratch technique primarily and the intradermal technique when more accurate readings are desired.

The president expressed the appreciation of the society of this excellent presentation.

—Lancaster County Bulletin.

A well attended and entertaining meeting was that of the **Third Councilor District Medical Society** at Falls City, April 23. It was an afternoon and evening meeting. The program follows:

"Emergency Treatment of Acute Eye Injuries", J. H. Judd, M. D., of Omaha; "Practical Points in Infant Feeding," E. B. Reed, M. D., of Lincoln; "Functional Nervous Disorders," Ernest Kelley, M. D., of Omaha; "Urology in Children," Charles Greenburg, M. D., of St. Joseph, Mo.; Business Meeting; Dinner at the Weaver Hotel; talk, "Medical Malpractice Insurance," R. W. Fouts, M. D., of Omaha; "The Diagnostic Importance of the Clinical Findings of the Enlarged Heart," H. J. Lehnhoff, M. D., of Lincoln; "Cardiac Diagnosis and Treatment," Adolph Sachs, M. D., of Omaha; "Duodenal Ulcer," H. K. Wallace, M. D., of St. Joseph, Mo.

The **Red Willow County Medical Society** met at McCook, April 23, primarily to honor Dr. Z. L. Kay, 82 years of age and who has been in practice fifty-five years, forty-seven of which years he has been at McCook. After the dinner in honor of Doctor Kay and the postprandial pleasantries, the following formal program was given:

"Diabetes from a Surgical Viewpoint", K. W. Brimmer, M. D., McCook, discussion by Dr. D. H. Morgan, M. D., McCook; "The Place of University Hospital in Medicine in Nebraska", C. W. M. Poynter, M. D., Omaha, Dean University Nebraska College of Medicine, open discussion; "The More Common Gangrenes of the Foot," B. B. Davis, M. D., Omaha, Professor of Surgery University of Nebraska College of Medicine, discussion by Dr. R. R. Reed, M. D., McCook.

The **Box Butte County Medical Society** met at the Alliance hotel, Alliance, April 28, for the regular dinner and meeting. A scientific program was given.

The **Furnas County Medical Society** met at Arapahoe on the 19th of April and elected the following officers: Dr. F. W. Shank, Oxford, president; Dr. C. L. Minnick, Cambridge, vice president; Dr. W. C. Miller, Arapahoe, secretary-treasurer.

Sixty-five doctors and their ladies enjoyed a dinner at the Horst Hotel, Madison, on the occasion of the April meeting of the **Madison Five County Medical Society,** on the 22. Dr. J. E. Summers, Omaha, spoke of his interest in, and experience with, Normet's solution as an emergency measure when blood transfusion is not practicable. He has tried it in upward of twenty-five cases with very favorable results and he is broadcasting his experiences in the hope the profession will give it a fair trial. He believes it is a wonderfully helpful thing.

Dr. John Holst, Omaha, spoke on "Glaucoma". He elucidated his text with numerous crayon drawings. He spoke of the varieties of Glaucoma and of the several operative procedures for relief. Dr. George M. Hansen, Madison, reported a case of infection in a diabetic, treated with massive doses of insulin, by cautiously increasing the doses, till urine was sugar-free, not having opportunity to make blood sugar tests; with happy result, showing that in emergency the older clinical method may be used.

The **Cedar, Dakota, Dixon, Thurston and Wayne Counties Medical Society** held its first meeting of the year at Wayne with a very good attendance and an excellent program as follows:

"Dental Diagnosis as An Aid to Medicine", Dr. L. B. Young, Wayne, Nebraska; "Clinical Presentation of Case of Acrodynia," Dr. R. H. McBride, Sioux City, Ia.; "A More Practical Classification of the Various Forms of Nephritis", Dr. Lucien Stark, Norfolk, Nebr.; "Hyper-Insulinism" with report of a case, Dr. R. N. Larimer, Sioux City, Ia.; "Prostatic Hypertrophy from the Physician's Viewpoint", Dr. Edwin Davis, [illegible]

ported seriously ill. [illegible]

Dr. R. E. Moyer, for a time located at Clearwater, has located at Wood Lake.

Dr. F. A. Barta, Ord, submitted to an operation for the removal of the appendix recently.

Dr. Victor E. Levine, Omaha, was elected president of the Nebraska Academy of Sciences at the annual meeting in May.

Dr. V. L. Siman, for a number of years in practice at Winside, has located at Norfolk in association with Dr. Robert Mullong.

Professor Hasslinger of Vienna gave a special course on the nose at the Nebraska University College of Medicine, May 10-16.

Dr. A. E. Cook, Randolph, suffered a Colles fracture of the right wrist in April, a result of an endeavor to crank a refractory car.

Dean Irving S. Cutter of Northwestern University Medical School attended several functions in Omaha and Lincoln during the week of May 10.

While attending the American Orthopedic association at Memphis, last month, Dr. H. W. Orr, Lincoln, suffered severe back injuries requiring hospitalization.

The partnership of Drs. Elston and O'Brien, Humphrey, has been dissolved and Dr. D. J. O'Brien will do postgraduate work in Philadelphia before again locating.

Dr. Joseph Karlovsky, senior at Creighton Medical, has been named beneficiary to the amount of $1,000 by the will of an old man whom he befriended at the Creighton outdoor clinic during the past year.

The will of the late Dr. Ole Grothan, St. Paul, has been upheld by the supreme court. The will had devised most of his property to two sisters who had made a home for him for years and had helped him in the office.

The Douglas county board of commissioners has appointed the following county hospital internes for the ensuing year: R. C. Scannell, William S. Ramacciotti, Joseph H. Coogan, Vern Jensen and William E. Kroupa.

A postgraduate course given at the University of Nebraska College of Medicine in surgery in the broader sense was attended by 31 Nebraska physicians whose names are appended: Drs. Perry Allerton, Tilden; H. T. Allingham, Omaha; Carl E. Amick, Loup City; J. N. Campbell, Stamford; W. K. Clark, Valentine; Roy S. Cram, Burwell; F. B. Cyphers, Duncan; W. I. Devers, Upland; A. R. Downing, Merna; Harry O. Drew, Albion; Arthur Everett, Kimball; Charles F. Heider, North Platte; Charles W. Hickey, Bennington; I. W. Irvin, Auburn; H. E. King, Fullerton; F. W. McCaw, Colon; O. H. Magaret, Papillion; Walter C. Miller, Arapahoe; Clarence Minnick, Cambridge; George H. Morris, Newman Grove; William N. Nelson, Harvey; L. E. Penner, Beatrice; G. W. Pugsley, Bayard; Ross S. Russell, Sutherland; Henry H. Seeley, Harvard; Charlotte P. Seiver, Fremont; S. W. Shank, Oxford; G. W. Sherfy, Lincoln; J. W. Stockman, Red Cloud; E. A. Warner, Blue Springs, and Carryl W. Wiggins, Shickley.

BOOKS RECEIVED

THE DIAGNOSIS AND TREATMENT OF BRAIN TUMORS by Ernest Sachs, A. B., M. D., Professor of Clinical Neurological Surgery, Washington University School of Medicine, St. Louis. 396 pages, 12 mo. with two hundred twenty-four illustrations, including ten in colors. Published by the C. V. Mosby Co. Price $10.00.

ROSTER OF OFFICERS—1931

K. S. J. Hohlen, Lincoln, President	1931
Lucien Stark, Norfolk, President-elect	1932
J. M. Willis, McCook, Vice President	1932
F. B. Young, Gering, Vice President	1932
R. B. Adams, Lincoln, Secretary-Treasurer	1933

COUNCILORS

A. P. Overgaard, Omaha, Secretary	1933
H. J. Lehnhoff, Lincoln	1933
W. R. Boyer, Pawnee City	1933
A. E. Cook, Randolph	1933
Morris Nielsen, Blair	1931
Frank Tornholm, Wahoo	1931
H. E. Potter, Fairbury	1931
W. J. Douglas, Atkinson	1931
R. D. Bryson, Callaway	1932
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PRENATAL SUPERVISION*

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Prenatal or antepartum care deals with the attention given to the mother and fetus during pregnancy. The rendering of this care is not an objective but is a means to an end. It is to be regarded as only a part of the care rendered to a mother which should include not only the supervision mentioned but also the attention given during the intranatal or intrapartum period and the postnatal or postpartum stage. The ultimate object of all this supervision and care is to safeguard the life and health of the mother leaving her at the end of the postpartum stage in a condition which does not impair her health and leaves her with a desire or willingness to bear children in sufficient numbers to at least perpetuate the human race. From the standpoint of the fetus, the objective is to obtain a normal, healthy infant born at term, unimpaired in body or mind by any congenital conditions which might arise during either pregnancy or labor. The infant is ushered into the neonatal period in this normal state and should be protected during the neonatal period so that it can make its adjustments to extrauterine life in a manner which will ultimately result in the development of a citizen who will profitably adjust himself to the life of the community. We also have a desire to encourage the progress of humanity by gradually diminishing the defective and inferior types and securing a greater number of average and superior types of individuals. Prenatal care is ordinarily supposed to begin with conception or as early in pregnancy as possible. Not all prospective mothers in this country are now receiving this type of care.

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*Read before annual meeting, Nebraska State Medical Association, Omaha, May 12-14, 1931.

We also should recognize the desirability of supplying what may be termed preconceptional care. In order to supply society with a most desirable type of individuals it must be recognized that proper parents should be selected for the children. It is more impossible for children to select their parents than for the parents to predetermine something of the type of their offspring. Both hereditary and environmental factors enter in to child health and development. Such conditions as these must be determined during the preconceptional period. One might ask when this type of supervision and care should begin. It is, of course, important that the potential parents have a proper heredity, but one might with more reason state that preconceptional care could begin with the actual birth of the potential mother or father. In this discussion we are more particularly concerned with the supervision of the potential and prospective mother. As indicated above in our remarks with reference to the fetus, it is desirable to have a healthy, normal, full-term baby delivered which remains free from deleterious influences during the neonatal period. It is essential that this neonatal infant pass through a period of proper growth and development remaining free from disease which may impair the health and growth of this individual. To be more specific, if we view such a female infant from the point of view of future childbearing, it is important to recognize that among other things proper skeletal development, whether affected by nutrition or posture, is of great importance. Abnormal pelves mean an abnormal birth canal which in turn makes serious complications of labor possible. Rachitic pelves are not uncommon and their formation could be obviated by proper attention to nutrition and hygiene during the period of growth and development. The early recognition and correction of congenital conditions, such as dislocation of the hip, the rectification of postural defects as affecting the extremities and spine and indirectly the bony pelvis are all factors in lessening the complications of labor. The elimination of infectious diseases in infancy and early childhood is of considerable importance in association with childbearing because these diseased processes leave impaired organs and structures whose function may break under the additional strain of a pregnancy. The acquisition of a tuberculosis in infancy and childhood from a mother who is afflicted with this disease may mean a distinct danger to the woman during her later reproductive life. Such preventable diseases as smallpox and diphtheria may leave permanently impaired organs which may break under the stress of pregnancy and parturition. Other diseases which are not so definitely preventable are in a measure controllable and children should be protected insofar as possible from various contacts which may lead to the acquisition of these various diseases. The growing child should be protected during the critical period of adolescence so that she may pass through this phase with the minimum of detriment to her physical, mental, and moral status.

With sexual maturity dangers of the acquisition of specific venereal diseases becomes obvious.

In a study of various communities totaling a population of over seventeen and a half million in various parts of the U. S. A. it is estimated that six hundred and forty-three thousand cases of syphilis and four hundred and seventy-four thousand cases of gonorrhea are constantly receiving care. The rates are estimated, on the basis of one thousand population at 9.65 for males and 4.85 for females for both diseases. It is estimated that there are four hundred and twenty-three thousand new cases of syphilis and six hundred and seventy-nine thousand new cases of gonorrhea each year coming under medical care. This gives an annual attack incidence per thousand population of 3.46 for syphilis and 5.71 for gonorrhea. It has been estimated that the case rate for gonorrhea is 4.88 for males and 1.78 for females; for syphilis 4.77 for males and 3.08 for females. The peak age for both groups of diseases are from 20 to 25 years. Venereal disease is more prominent among the negroes than the whites the rate per thousand being as 11 to 8. In the rural negro population of the Southern states a recent study indicates that as high as 24 per cent of the population over one year of age had a positive Wasserman. Some published reports covering a ten year period indicate that among women admitted to maternity hospitals about 6.9 per cent had positive Wasserman reactions.

The prevention of these diseases is quite possible by proper conduct; on the other hand, no general acceptance of such a plan has ever been accomplished. It would be quite possible to detect and properly treat these diseases during the preconceptional period. This would reduce the possibility of transmission from one potential parent to the other and from transmission to the fetus. It is, of course, possible to treat these same diseases during the prenatal period, but such management would be much more efficacious if instituted prior to conception.

Other diseases, aside from these, are of considerable importance in their relation to pregnancy, and it would be preferable to detect them prior to the beginning of gestation. Tuberculosis has already been mentioned. It is much more desirable to have this disease recognized and appropriately managed before conception and have the potential mother in proper physical condition when the pregnancy begins than to be forced to treat this disease during the course of the pregnancy. The existence of a cardiac disease had better be determined prior to the actual beginning of the prenatal period. Heart disease seems to be recognized as an important complication of pregnancy in about one per cent of the cases. The general consensus of opinion seems to be that with a well compensated heart, pregnancy and labor do not constitute a serious complication. On the other hand, a woman who has once had a serious break in compensation is not a good risk for pregnancy and labor. Other complicating conditions such as nephritis, diabetes, goitre, and numerous focal infections are better managed prior to the onset of pregnancy than during its course. In addition to these specific diseases which have been mentioned, it would be highly desirable if the general health condition of a potential mother could be checked prior to the beginning of pregnancy. Nutritional disturbances with defective nutrition or the opposite extreme of obesity could be corrected to advantage. Conditions of anemia could be improved or overcome. In other words, the prospective mother could and should be placed in the proper physical and mental state to accept the fine responsibilities of childbearing. Some states have attempted to enforce a certain amount of health certification prior to marriage. These legal enforcements have not met with unqualified success. Other states have and are attempting to carry through certain programs of eugenic legislation. This is part of a program for race betterment by the application of preconceptional care to certain groups for the benefit of the community. This stresses the point that preconceptional care as well as other types of supervision can be viewed from the standpoint of the individual and also from that of the community. In enacting and enforcing legislation it is necessary that we be sure of our ground especially where hereditary factors are involved. The prevention of the propagation of those who are hereditarily unfit is certainly justified. It is just as important to have those, who are fit from a standpoint of heredity, projected into a proper environment. From the standpoint of a community the problem of preconceptional care is twofold; first, the program of gradually eliminating the group which is defective from a standpoint of heredity; and second, the provision of suitable home and other environmental conditions for those who are hereditarily fit for life in a modern community. It will take a long time to educate both individuals and community to the value of such preconceptional care. In fact many of the individuals who need such education are more or less irresponsible and will not react favorably to such a plan except under compulsion. In the same manner prenatal care may be viewed from the standpoint of the individual and from that of the public. The individual doctor has been trained by education and precedence to deal with the individual. He should also acquire the viewpoint of looking at these problems from the standpoint of the public with the idea of assuming leadership in the solution of these many problems.

The origin of prenatal care is lost in antiquity.

Prenatal care has been vigorously advocated in this country for nearly twenty years. It is safe to say that today the majority of women are not given adequate antepartum attention. In a maternal mortality study conducted by the Federal Children's Bureau in cooperation with state medical societies and state divisions of maternity and infancy data were secured relative to the prenatal care of 5,636 fatal cases of which 53 per cent received no care and 72 per cent inadequate prenatal care. In the birth registration area in 1929 there were approximately 15,000 maternal deaths of which three fourths are due to controllable causes of infection, toxemia and hemorrhage. The maternal mortality study of the Children's Bureau covered 7,346 maternal deaths in which the period of gestation is known. Two thousand three hundred and eighty-one or practically one third followed an interruption of pregnancy before the seventh month, and 25 per cent of the deaths from these causes had been preceded by abortion. Of the deaths prior to the seventh month 59 per cent died from sepsis and after the seventh month of gestation about 31 per cent died from infection and a little over 31 per cent died from toxemia. Of the deaths following abortion 73 per cent were due to infection. It is estimated that now there is approximately one abortion for every full term pregnancy. It is easy to understand that these deaths from abortion swell the maternal mortality rate in the United States. In the future all maternal deaths from septicemia will be classified so as to show those which were preceded by abortion. In passing it may be interesting to note that in New York City and the State of Maryland all products of conception are supposed to be registered. It seems to be quite generally true, in this country at least, that approximately 75 per cent of the maternal deaths are due to controllable causes. This is corroborated by the statistics from the maternal mortality study mentioned above. Among the group of 7,380 maternal deaths 40 per cent died from infection, 26 per cent from toxemia, and 11 per cent from hemorrhage. It is also important to note that only 42 per cent of these pregnancies resulted in live births. One must recognize that prenatal care has not only its possibilities but also its limitations. Among the possibilities are: *First,* the reduction of deaths from infection. It is apparent from the statistics quoted above that deaths from infection are relatively much more frequent among abortions and premature terminations of pregnancy than among those cases carried to term. With the rapidly increasing number of abortions, especially among the intentional or induced group, much could be accomplished by educating individuals and groups to the danger of induced abortion. It also seems necessary that doctors should be prepared to handle these cases of abortion in a more appropriate manner and thus reduce the possibilities of infection in these cases. Infections, which follow delivery of viable infants in about one third of the fatal cases, could be reduced if more attention were given during the prenatal period to proper preparation of the patient for delivery at the expected time. It is the general opinion that puerperal infection is introduced from without and is rarely of endogenous origin. In all probability the infecting organism was introduced during the intranatal period, but the proper and adequate preparations for labor should have been made during the prenatal period. Much could also be accomplished by the proper evaluation of cases during pregnancy so that those in whom a difficult or complicated labor may be anticipated could have arrangements made for care in suitable surroundings by well-trained personnel.

Second, the toxemias of pregnancy constitute in our present state of knowledge a major problem in prenatal care which if adequately given will almost always enable the physician to detect the development of this disease early in its course. In the absence of specific therapy for these toxic conditions the early detection coupled with the termination of pregnancy at the proper time is of the utmost importance, not only in saving the life of the mother and possibly of the fetus, but also in preventing serious damage to maternal organs which may as a result of this profound intoxication never fully recover their normal functional capacity. In well-conducted prenatal clinics eclamptic seizures have been practically eliminated and deaths from the toxemias of pregnancy almost entirely eradicated. The mortality from toxemias of pregnancy is a good index of the effectiveness of the prenatal care which is administered. *Third,* deaths from hemorrhage fall into different catagories. Some are from hemorrhages during pregnancy, others from those occurring during labor and still others from those which take place during the early postpartum period. The early recognition of the significance and the prompt institution of appropriate treatment for the hemorrhages occurring during pregnancy are definitely problems for prenatal supervision. *Fourth,* the remaining 25 per cent of the deaths are due to a variety of causes, many of which could and should be recognized as potentialities during the prenatal period.

Morbidity of mothers is of equal importance with mortality, but is not commonly used as an index of results. Postnatal check-up has not been generally or effectively carried out, but it is certain that careful follow-up of many cases which suffer from complications during pregnancy, such as the toxemias, renal complication, cardiac disease, tuberculosis, etc., would show a surprisingly large list of casualties as well as of permanent disabilities resulting from prenatal conditions.

Many fetuses are lost as the result of inadequate prenatal care. In 1929 approximately 80,000 infants died within the registration area before attaining the age of one month. There were approximately 85,600 stillbirths. In this country there is no uniform definition of stillbirth. In general a birth must be reported as a stillbirth subsequent to five months of uterogestation where no sign of life is exhibited subsequent to birth. On the other hand, any birth must be reported as a live birth where the same period of gestation has been reached and signs of life are exhibited subsequent to delivery. It is apparent from this definition that many fetuses are included in both groups where the period of viability had not been obtained. Fetal deaths are frequently due to unexplained causes, to previability and prematurity, to congenital and hereditary conditions, to birth injuries and to infections of various types. There are also numerous infants which survive to become defective or handicapped children. President Hoover in his address at the White House Conference on Child Health and Protection stated that there were 8,571,000 blind, defective and otherwise handicapped children. Many of these are so afflicted because of conditions which are inherited, congenital, acquired during birth or immediately subsequent thereto. He stated that 64,000 are either totally or partially blind. It is known that between 9 and 10 per cent of infants and children admitted to schools for the blind have acquired this condition as a result of ophthalmia neonatorum. In many others the condition in the eyes is due to syphilis. There are 300,000 crippled children. In many this condition is due to birth injury in some of which the injury could have been avoided by proper prenatal evaluation with placement of the case in appropriate hands and surroundings. There are 382,000 tuberculosis children. Many of these have doubtless acquired it within the family circle, probably in many instances from their mothers. It would have been possible to avoid an acquisition of a tuberculosis by these children had the situation in the family and in the mother been recognized during the period of prenatal supervision. It was also stated that there were 200,000 delinquent, 500,000 dependent, 450,000 mentally retarded and 675,000 problem children. President Hoover did not specifically mention syphilis, but it has been estimated that from 3 to 5 per cent of the child population is afflicted with this disease. It is well known that a considerable percentage of the stillbirths are due to syphilis which varies from 3 to 25 per cent of the stillbirths in various communities and racial groups. This enormous number of children, who are thus afflicted, comprises within the group a very considerable percentage which could and should have been eliminated by proper prenatal and preconceptional care.

Some of the problems relative to prenatal supervision have been stated. It might be well to spend a little time in considering what should be done by the individual doctor for the individual patient, who places herself under his care. It should not be necessary to state that a careful and complete history should be taken covering the events occurring in the life of that woman from birth to date. It should include insofar as they can be ascertained, the facts in the life history of that particular individual. Certain facts in the family history should also be brought out as well as those pertaining to her husband and immediate family if there be such. If the pregnancy is a first one no history of previous pregnancy is, of course, necessary. If there have been prior pregnancies all essential information relative to the antecedent pregnancies, labors and puerperiums should be elicited, insofar as they pertain to her and her offspring. It is better that the history of these pregnancies should be brought out in chronological order so that a proper sequence could be secured. Lastly, a detailed history of the existing pregnancy with attendant symptoms and complications should be fully developed. The examination of the patient should be thorough and be carried out by regions and systems. In addition to the routine physical examination mentioned above a special obstetric examination should be made which includes careful abdominal examination with inspection, palpation, percussion and auscultation. Mensuration should also be practiced, the circumference of the abdomen and the height of the uterus should be determined. External pelvimetry should be practiced routinely, taking the interspinous, intercresteal, intertrochanter, external-conjugate and occasionally both oblique diameters. The size of the outlet should be estimated, especially the bi-ischial and posterior sagittal diameter. The size of the birth canal should be approximately determined by palpation of the pubes and pubic arch, the sacral concavities, the coccyx, the distance between the ischial spines should be estimated and the length of the diagonal conjugate be measured. In addition to the determination of the facts relative to the bony pelvis, the condition of the soft part and the genitalia, should be established. The presence of infection should be noted, neoplasms should be looked for and any abnormalities recognized. Certain other facts should be investigated with particular reference to the spine and sacroiliac region and the extremities. The body type should be noticed. Certain laboratory tests should be made. The urine should always be examined, physically, chemically and microscopically. The blood should be examined and hemoglobin estimations together with blood counts be made. Routine blood Wassermans should be taken and smears of suspicious discharges be examined. The taking of the weight and blood pressure should be matters of routine in any physical examination, but they are of especial importance in connection with the care of a pregnant woman. The initial examination, desirable in itself, is not sufficient. Repeated examinations must be made. In the absence of indications complete physical check-ups on subsequent examinations are not necessary. The watching of the progress of uterine development, attention to the breasts, watching for signs of complicating conditions such as edema, repeated blood pressure readings, rechecking of weight gain and loss and repeated urine and blood examinations are very necessary. It is desirable to supervise the hygiene including clothing and diet. We do not know a rational diet for the pregnant woman. It is necessary to provide certain fundamentals in the dietary which include proteins, inorganic salts, vitamins, some carbohydrates, and bulk. The weight should be checked so that there is a steady increase without undue gain. Special diets may be indicated in those who are underweight, in anemic individuals, and dietary restrictions should be placed upon those who are obese or show a marked tendency to gain weight. Special instructions for care should be given to those who present complications, such as tuberculosis or heart disease. There is no specific therapy for those presenting evidence of hypertension or renal disease. They should be much more carefully supervised; they should secure plenty of rest, avoid excitement and be placed upon a bland diet and elimination be secured. A woman with venereal disease, whether gonorrhea or syphilis, should be treated actively during pregnancy in an effort to cure up the former prior to the onset of delivery and to eliminate the ill effects of the latter upon the fetus. The frequency of prenatal supervision would vary with the circumstances surrounding individual cases. The minimum should be once a month up to six months of gestation, and subesquently at least biweekly and preferably weekly especially during the last month. Little routine medication is needed during pregnancy and should be used only for specific reasons. In the iodine free regions where goiter is more or less endemic administration of small amounts of sodium or potassium iodide is desirable for both mother and fetus. Only small amounts are needed and a few mgm. daily should be adequate. In addition to the care of the individual patient it may be well to mention the desirability of having in each community, rural or urban, provisions for furnishing prenatal care to all potential and prospective mothers in that community. This means more than the care of the individual patient by the individual physician. It implies the organization of the resources of that particular community so that by cooperation of doctors, dentists, nurses, social workers, hospital and dispensaries, a scheme can be worked out so that each individual mother will receive the care which is essential to her best interest. This may be supplied in the home by the doctor working in cooperation with the nurse which to my mind is the more ideal arrangement, or it may be furnished by the midwife who should be trained in the proper performance of her duties and work in cooperation with a qualified obstetrician so that his services would be available in case of complications. Institutional care should also be furnished, to those mothers who require hospitalization, for the best conduct of their cases. It should not be necessary to admit many mothers to hospitals as emergency cases. Many of these emergencies can be foreseen by proper prenatal supervision. In the mortality study cited above there were 1,893 cases, who had passed seven months gestation, who died in hospitals; 996 of these, or over half were, admitted as emergency cases. It is surely possible for existing organizations in most communities to so work together under the leadership of physicians that every mother, rich or poor, white or black, could receive the care which is necessary to safeguard the interests of herself and the unborn child, to the end that she may receive not only adequate prenatal care, but also consecutive and reasonably complete intrapartum and postpartum care. It is only by the attention of the individual doctor to his individual patients that some of the individuals of the community can be reached. On the other hand, there are large groups in any community, who, for racial, social or economic factors, can be reached only by organization of the community resources in a way to supply the necessary maternal care to the potential and prospective mothers of that community. The doctors, individually or collectively, should see that such a program for safeguarding the lives and health of the mothers and children of their own community is satisfactorily carried out.

THE BUSY MAN

If you want to get a favor done
By some obliging friend,
And want a promise, safe and sure,
On which you may depend,
Don't go to him who always has
Much leisure time to plan;
But if you want your favor done,
Just ask the busy man.
The man with leisure never has
A moment he can spare,
He's always "putting off" until
His friends are in despair.
But he whose every waking hour
Is crowded full of work,
Forgets the art of wasting time,
He cannot stop to shirk.
So when you want a favor done
And want it right away,
Go to the man who constantly
Work twenty hours a day.
He'll find a moment sure, somewhere,
That has no other use,
And fix you while the idle man
Is framing an excuse.—N. Y. Ledger.

WHAT WE MAY EXPECT OF THE GENERAL PRACTITIONER IN OBSTETRICS*

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An analysis of the opportunities and possibilities of the general practitioner today will prove conclusively that he occupies an enviable position in obstetrics. For several years, the postgraduate and extension departments of medical schools as well as the extension divisions of both state and national societies, have directed their efforts toward the continuous education of the general practitioner. How well they have succeeded is evinced by the large attendance and intense interest manifest at these various meetings and postgraduate courses. With such opportunities available, one should estimate the general practitioner's part in obstetrics, in the most optimistic light.

In general practice, obstetrical problems must often be solved. The manner in which they are solved depends not only upon the training of the physician, but upon his attitude toward this training. How well the general practitioner has been trained is shown by the requirements in premedic, medical, and hospital courses. In medical schools, his hours in obstetrics compare favorably with other branches of medicine; for interneships, there is to be found in many modern hospitals a separate maternity department with men in charge who are most capable of emphasizing the fundamentals taught in our medical schools. In the larger cities, we find many well organized pre-natal clinics with hospital facilities for caring for from forty to one hundred obstetrical cases, making it possible for the average interne to see and care for most every problem, which may arise in obstetrics under organized supervision. It then must be granted that, with the training given in medical schools and the opportunities offered in interne services, there is no excuse for any physician not being familiar with the value of prenatal care, the clinical course of labor, the mechanism of labor, obstetrical possibilities and post natal care.

With these opportunities offered to the student and interne, certain obligations must be accepted by the schools and hospitals. No criticism need be made of their didactic and practical work, but there is a grave responsibility in the placing of students for interneships. In many of the schools there is close supervision of internes, but, unfortunately, in several of the larger schools, no attempt has been made to supervise interneships. From an experience of ten years on interne committees of hospitals of Kansas City, especially of the Kansas City General Hospital, it has been observed that the schools requiring the fifth year in an accredited hospital, before issuing a diploma have produced, the doctor with the best attitude toward medicine and its specialities. With regular reports to the school from the hospital, a check can be kept both on the internes work and his deportment. The importance of this cannot be overestimated, since the graduate must keep up the standards required by the school and submit to discipline—a thing that has much to do with the character of his work. He must keep up his histories, examine his patients, and adopt a systematic routine of handling his patients. This not only develops in him a better attitude toward sick people, but results in the formation of habits which tend to make him a better doctor. In following the progress of internes through the years, both in hospitals and in private practice, I am absolutely convinced of the wisdom of this plan.

The interne is most susceptible to influence. For four years, he has had theory and practice under close supervision, hence, upon entering the obstetrical division, he is eager to do every obstetrical operation as quickly as possible and, if not closely supervised, will attempt any procedure to gain this end. The necessity for supervision is proven by the change in his attitude when those in charge teach and demonstrate the dangers in all obstetric problems. He is easily led to see these pitfalls and dangers and soon is taught the greatest lesson he can learn is that women can, and do, give birth to babies normally. He also learns that with thorough examination of patients, careful study of the clinical course of labor and the mechanism of labor, he can be master of all situations at all times. Internes trained along such lines are best prepared to do obstetrics in general practice.

In choosing a location for practice, associates are important. In the cities, capable physicians are acceptable on the obstetrical staffs of hospitals so long as their work is in keeping with the requirements of the hospital. If they have been well trained and are of the right attitude, they have one of the greatest opportunities that comes to any physician. The friendship and association with the different members of the staff in all branches of medicine, together with the advice and assistance which can be derived from such associations, is an invaluable aid in determining his future. On the other hand, the poorly trained men, not entering into such an association, are prone to stay by themselves, face their problems alone and too soon fall easy prey to the commercial profession, or become members of staffs of hospitals of poor rating. All these suggestions must be taken into consideration in determining what we may expect of the general practitioner, causing us to emphasize again the importance of school supervision of interneships and hospital standards.

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*Read before annual meeting, Nebraska State Medical Association, Omaha, May 12-14, 1931.

It has been my privilege to follow many of our internes through the years, and many of their reports have been most interesting. In attempting to carry their teachings into practice in some communities, they have been told they could not practice hospital methods because such methods were a loss of time and patients did not appreciate such care. But those doctors who have had the courage and energy to follow their training, report their patients willing to abide by the doctor's regime. Remuneration has been, and is, an important factor to the general practitioner. Standards have been established which are difficult to change, and yet many times we have seen our internes go into a community, double the fees of their associates and develop the largest obstetrical practice in their district, all because they have had the courage to carry their hospital methods into the homes and they have charged, and collected, fees in keeping with the service rendered. In two adjacent towns in central Kansas live two former internes from the Kansas City General Hospital. If either of these has a contagious patient, the other cares for his maternity cases; if either has a difficult case, or if a pelvic repair is necessary, the other lends his assistance. These two men are doing prenatal care in all cases, using only autoclaved materials during deliveries and they state, with pride, they are as clean in their work as we are in the Kansas City General Hospital. When asked regarding public response and remuneration, they reported their patients pleased with their treatment and their fees in keeping with ours of the city. Another interesting point in their report is that in neither of the two towns is there to be found a member of any cult of medicine. Reports from several other internes are that they have established hospitals in their communities and are drawing maternity cases from many miles around. The majority of these internes are doing general practice and are proud to be classed as general practitioners.

The general practitioner will not appreciate his obligations to his community regarding obstetrics until he realizes that this community is just what he has taught it to be. His apparent feeling of subservience to the specialist endangers in his own mind his possibilities. One does not question today the demand of the public for intelligent care by one doctor, rather than being subjected to a clinic, where the patient is buffeted about from specialist to specialist who, unlike the family doctor, do not have an intimate knowledge of the patient's family history, social and financial problems, which too often are contributing factors of his illness. Nor do we question the loyalty and faithfulness of a community for its family doctor—truer friends are not found by any other member of the medical profession. With this in mind, must not the most conceivable reason for the patient going into the larger cities for medical care, be her lack of trust of her own general practitioner's ability? Is there any other answer for a maternity case leaving her own home and friends to go into the city, where her expenses are markedly increased, than her fear that her local physician will not surround her with the safety she demands? Is this the fault of the general practitioners early training or has he failed to make the most of his opportunities?

Twenty-five years ago, cleanliness was little practiced in obstetrics—even exposure of the patient was considered an insult by the family; anaesthetics were seldom used—forceps and versions were done without anaesthetics and often without so much as sterilizing an instrument. Today, as we have all seen many times, those who have not been willing to accept the change in methods, have been eliminated. When it is appreciated that the general practitioner cares for the majority of women of the land in child-birth, and when it is remembered that the United States stands seventeenth among the nations of the world in maternal welfare, does it not seem that the real leader for better obstetrics should be the general practitioner? Putting it more directly, is it not a fact that the future life and health of both mothers and their babies is in the hands of the general practitioner? Can there be a greater challenge to any branch of the profession? The specialists care for many patients in private practice and in the larger clinical centers, and because of volume are able to establish standards, yet the burden in the last analysis rests with the general practitioner.

Knowing the demands of the public upon the general practitioner, we believe after twelve years in general practice, we have learned some of his problems. We are convinced that if that fire developed in pre-medic work, medical school and interneship is kept burning, he can change the obstetrical standing of the United States. No general practitioner has any reason to apologize for his place in the profession. His only apology is to himself if he does not study and keep in touch with progress but allows himself to become lax, a thing which limits his efficiency and causes him to become mentally sterile. To the ambitious, who plan to do obstetrics, or any of the other specialties, we know of no better training following interneship than general practice. With such a wealth of knowledge of sick people, he is far better prepared to take up a specialty and better equipped after his special training than any student who has gone directly into a specialty training with the immediate adoption of that specialty.

The statement has been often made that such suggestions sound good but that the general practitioner has to go into the home without hospital facilities, with the ignorance and prejudices of people which make the practice of modern obstetrics in the home almost impossible. And yet, those who have had the courage to carry out their early training, report that it has been done and that it has added much to their success and their pleasure in the practice of medicine. Hospitals are springing up in many centers, roads are being paved throughout the length and breadth of our land and distances have been eliminated by the automobile. We predict that the time is not far distant when most obstetrical patients will go into the nearby hospital for care. Consequently better facilities will soon be in the hands of the general practitioner.

Prenatal care, when advocated and practiced by the general practitioner, will change our standing among the nations as no other practice will do. Both physician and laymen today realize that the type of obstetrics practiced determine the health of the women of our country. From what we can gather from the physicians of Western Missouri and Eastern Kansas, the average practitioner will care for from thirty to fifty cases of obstetrics in a year—more cases than he will care for in any other one class of medicine. How many general practitioners will have fifty surgical patients in a year? fifty pneumonia patients? fifty thyroid patients, or fifty serious illnesses of any type? yet it is possible to save more lives in proportion by prenatal care alone than in any fifty consecutive cases of any other class of patients. The differentiation in toxemias of pregnancy is being very definitely classified. Vomiting of pregnancy is a toxemia and not a neurosis, and, when properly treated, few pernicious cases develop and we predict that with the progress being made in this condition alone, emptying the uterus for such a condition will be considered negligent not only by the profession but by the public. Diseases of the thyroid, heart or lungs when associated with pregnancy demand intelligent prenatal care and in few, if well treated, is there any excuse for emptying the uterus—a procedure considered too lightly in many instances. Who then should be better prepared to meet such emergencies than the general practitioner, who is constantly seeing and treating such pathology?

The conduct of labor determines the future of both mother and babe. This, then, becomes the greatest emergency met in the course of general practice since the future health, and even the lives, of two individuals are in his care. Therefore, no other practice and no other obligation should interfere with the conduct of a case of labor. What physician will not stay at the bedside of a pneumonia patient hovering between life and death, or with the uremic patient or a child with convulsions where life is at stake and where he feels he can be of service to the patient or family? His office and practice are forgotten and the public forgives. Too often, when he sees a maternity case, a hypodermic is given and he returns to the patient's side only when he is compelled to do so by the anxiety of the family. If labor is not progressing, pituitrin is given again and again and labor is terminated with seemingly no fear on the part of the physician. If dilatation is complete, and too often when incomplete, an anaesthetic is given by a member of the family, forceps are applied and labor ended quickly. Fortunately, this is not the universal attitude of the general practitioner but it occurs too often for the safety of mothers and babies. If an analysis of obstetrical work done in this manner were made, it would be found that the physician was the loser. How many patients cared for in this manner leave his service only to find the cause of ill health in the clinic of the surgeon or gynecologist? How many infants are either lost because of haste or are later found in the hands of the orthopedist because of obstetric injuries? What effect have such cases on the physician's success and the confidence of his public?

A factor which enters into the question is the demand for painless and shorter labors. This is the greatest and most abused problem which confronts the American physician. Contrary to the mass of literature written on the subject, pain is a part of labor in the mansion of the rich or the hovel of the poor and all methods used for its control require close supervision by the physician himself, whether it be in the hospital or in the home. Interference has become almost a crime of American obstetrics and without a doubt, attempts made to shorten labor and to make labor painless have been important factors in our standing among the nations. The teaching through the years has been that interference is indicated only in the interest of the mother and babe. Unfortunately, some of the literature would seem to justify other procedures, but may we ask those doing obstetrics who are continually in touch with their patients, do not those women who deliver normally make the best recoveries and retain better health through the years? Another product of this abuse has been unfair competition and added fears from obstetrical problems; still another which may become a pitfall of the profession and lessen the confidence of the doctor's patients, is extra charges for interference. Having discussed this subject with a number of practitioners both in the city and in the country, as well as with specialists from various sections of the United States, the essayist believes that charges can be made in keeping with the patient's ability to pay, and when conditions arise requiring extra time or special interference, charges may be adjusted by the patient and physician in a friendly discussion of the merits of the case.

For the last eight years, obstetrical clinics have been held in the various hospitals in Greater Kansas City during the conference of the Kansas City Southwest Clinical Society and it has been of interest to note that the general practitioners have attended the obstetric clinics in greater numbers and more consistently than any of the other clinics. Last year, the Central States Obstetrical and Gynecological Society met one day with the Kansas City Southwest Clinical Society. In each of the hospitals, obstetric and gynecologic clinics were held with large attendance. In the afternoon, a symposium on obstetrics was given by leading obstetricians of the United States. From one-thiry to five-thirty that afternoon there was an attendance of seven to eight hundred, and it was most gratifying to find that the audience was made up chiefly of general practitioners, representing some fifteen states.

Then to ask those of us who have done general practice, who have attended such meetings or who have had anything to do with the training of doctors, what to expect of the general practitioner in obstetrics, arouses our enthusiasm. Truly the general practitioner is the greatest missionary of obstetrics for good or for bad. With his present day training and his knowledge of well and sick people, and his hold on the confidence and affections of the public, he can and should be the Great Protector of the American expectant mother and her babe. He has only to apply his teachings by doing prenatal care, by demonstrating how well he can care for women during labor rather than how quickly. He can make his community obstetrically wise and reap the benefit both in remuneration and in satisfaction.

At this time there can be issued to the entire profession a note of warning. The present day expectant mother is taught and knows the benefit of safe, clean obstetrics and the present day graduate with his pre-medic, medical and interne training is competent to render such service. The demand of the public is for a physician who can treat all of his ills more economically, and more and more the young physicians are going back to towns and hamlets to practice, and it must be said to their credit, they are starting with greater ideals than were ever known before, hence they may offer the real solution of the problem of obstetrics in the United States. If the general practitioner will adopt for his ideal, as clean, conservative and efficient obstetrics in the home as can be done in the hospital by any specialist, then he will fulfill his obligations to his entrusting clientele. Then the United States can, and will, bring it's position up to the first nation of the world in maternal welfare.

OBSTETRIC TEACHING AND PRACTICE*

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We have heard and read much of the high maternal mortality in the United States. A number of our leaders in obstetrics have of late years waged a vigorous campaign for better obstetrics. The problem has been attacked from many angles but more particularly from the standpoint of obstetric teaching. The standard of obstetric practice will be largely determined by the manner in which the subject is taught to medical students.

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graduates of medicine, nurses and midwives. Overtures have been made to the Council of Medical Education for a more liberal recognition of obstetrics in medical education but with scant encouragement. Not only is obstetrics subordinated to medicine and general surgery in a large proportion of medical schools but in not a few instances do we find some of the minor specialties given precedence.

All will agree that it is the business of our medical schools to prepare students for the general practice of medicine. Are they fulfilling this obligation? In the vernacular of the immortal Andy we would answer—"Yes and no—mostly no", if we are to judge by the results. Witness the emphasis placed on the various specialties in our teaching institutions and then note the disproportionate number of specialists in the profession. In the March, 1931, *Bulletin of the A. M. A.*, there appears a resolution for consideration by the House of Delegates and we read that "there appears to be a growing tendency on the part of physicians who are not properly qualified to hold themselves out as specialists." It is resolved that a commission be appointed to "give consideration to the present status of specialization in medicine"; that this commission "shall define the various specialties which in the opinion of the commission may be considered as necessary for the best interest of the public and of scientific medicine." It is further resolved that the commission "shall report to the House of Delegates concerning the advisability of the possible enactment of legislation whereby state boards of medical examiners, or other bodies charged with the administration of practice acts, may be empowered to issue special licenses to physicians who wish to qualify and to practice as specialists." Obstetrics is the oldest of medical specialties. In importance to the general practice it out-ranks general surgery and is second only to internal medicine. Such should be its relative position in the curriculum of medical schools. That obstetrics is not accorded its rightful place is evidenced by the fact that general surgery, exclusive of the surgical specialties, is given double the teaching hours that is obstetrics, in the schools of the United States. Not only does this disparagement of obstetrics and exaltation of surgery lend encouragement to excessive sugery in practice but it is a factor in promoting the all too prevalent tendency to look upon obstetrics as a surgical specialty. In this connection I have in mind the report of a certain maternity in which the statement appears that 93 per cent of all deliveries were operative. Untimely and unwarranted operative interference in obstetric deliveries is an acknowledged factor in maternal and fetal mortality and in-as-much as the great majority of women will deliver without interference it is indeed unfortunate that students should be exposed to such pernicious teaching.

The latest and most important of all contributions to the campaign for better obstetrics comes from the White House Conference on Child Welfare and Protection which met in Washington, February 29-20-21, at the call of President Hoover. This conference supplied abundant evidence that the clinical teaching of obstetrics in the medical schools of the United States is sadly remiss and largely so for the want of teaching beds and for patients to fill them. It was revealed that few of our schools are adequately equipped for the teaching of clinical obstetrics. It was agreed that the ideal equipment would be a maternity hospital of sufficient capacity to supply needed clinical material, preferably isolated but in proximity to the university hospital and under university control. Furthermore, that there should be a well-ordered dispensary in connection with the maternity hospital, where prenatal and post-natal observations may be carried out by the students but always under competent direction.

The maternal and fetal death rates are partly attributable to the lack of prenatal and other maternity supervision. With no desire to absolve the physician from his responsibilities in prenatal supervision we are of the opinion that the blame rests in part upon the women themselves. Through various campaigns of education conducted by numerous agencies they have had opportunity to know of its importance, yet they are too often indifferent and negectful. And so the expectant mother disregards instruction, unmindful of the pitfalls that await her. Not until women appreciate the serious aspects of childbirth will they demand that expert guidance which the specialty requires.

For want of adequate dispensary and maternity facilities it has long been the practice to send students into the homes of the poor for their training in clinical obstetrics. With little more than a smattering of theory these students are charged with the responsibility of an obstetric practice. At a rule they are not accompanied by a teaching obstetrician and so these unfortunate victims of a vicious practice are left to their own devices. They have eyes to see but they see not; they have ears to hear but they hear not; they experience the qualms of uncertainty but they learn little save that an all-wise Creator has endowed women with the capacity to bear children unaided when there is no aid. Were it not so, the system would have been abandoned long ago. It is not conceded that students have sufficient knowledge of clinical obstetrics to recognize and evaluate clinical phenomina, such as would presage an impending rupture of the uterus, a hemorrhage from placenta previa, a concealed hemorrhage, an ectopic pregnancy, an eclamptic seizure or a mal presentation. It follows that they are not prepared to call for help when that help might forestall serious complications. Adequate maternity and dispensary facilities under the control of the medical school would supply all needed clinical material and would afford means for proper supervision of the student body. Clinical material in surgery and medicine are supplied in this manner—why not in obstetrics? For my own part I am at a loss to know why medical students are required to deliver cases under any circumstances. They are not required to perform minor operations either in the home or hospital. Why, then, should they be required to assume the much graver responsibilities of obstetric deliveries? Are we to regard childbirth as a physiological process that does not merit skilled supervision? The survey of the White House Conference disclosed an abundance of clinical material in the maternities of the United States that is not being used for teaching purposes. It is recommended by the committee on undergraduate teaching of obstetrics of the White House Conference that where schools are not adequately equipped for the teaching of clinical obstetrics that they defer the conferring of the degree of M. D. until their students have had a rotating hospital interneship of one year, including a satisfactory obstetric service.

We have referred to the inadequacy of prenatal and post-natal clinics in our teaching institutions. All of the schools lay claim to such clinics but the survey discloses that with few exceptions this phase of teaching is not well organized. Proper prenatal supervision will go far in lowering maternal and infant mortality. The student should not be denied this important phase of obstetric teaching. We learned from the New York Lying-In Hospital that the maternal mortality was twice as high in the cases having no prenatal supervision as in those that had been under observation in the prenatal clinic. In the Long Island Hospital the proportion was three to one. The responsibilities of the obstetrician begin at the date of conception and are not at an end until mother and babe are whole and sound. Prevention is as clearly indicated in obstetrics as in medicine. Happily, we are experiencing an awakening of interest in the preventive phase of obstetrics. It can do for obstetrics what it has done for medicine and surgery and with that accomplished obstetrics will take its place alongside of medicine and surgery in the onward progress of our science. The White House Conference, in its fact-finding capacity and in the follow-up activities that are to come, will do much in coordinating the forces necessary for such an accomplishment.

We are told that the maternal mortality rate is higher in the cities than in the rural districts; that it is appallingly high among the colored race and that the sparsely settled districts, where facilities are meager or altogether wanting and doctors are few, are suffering by comparison with more thickly populated districts. We are told on competent authority that puerperal sepsis ends fatally in 50 per cent more cases in the cities than in rural districts where surgical interference is less in vogue(1). Frederick Rice finds the average maternal mortality rate from sepsis in cities to be three per thousand live births and in rural districts 1.9 per thousand live births(2). These are thought-provoking statements which should come to us as a challenge. More than half, if not three-fourths, of maternal fatalities, are preventable. Are we to lag behind in the onward march of preventive medicine? The awakening of general interest in prenatal care, the masterly leadership of men and institutions as evidenced here and there and the organized efforts to ascertain facts by such organizations as the White House Conference on Child Health and Protection afford abundant evidence that the time is not far distant when we will make a better accounting of our stewardship.

What can be done along educational lines for the general practitioners who are in active practice? This problem was seriously considered in the White House Conference. Circuit courses, either under the auspices of the state university or the state medical society, were recommended as invaluable measures for bringing inspiration and technical knowledge to rural practitioners. These courses should be eminently practical—free of fads and fancies. They should not be given gratuitously—the cost of operation should be born by those who participate in them. In addition to the circuit courses, which are brought to groups of doctors in their respective communities, short courses are given in post-graduate schools, teaching hospitals and medical schools. Then, too, there is an ever-increasing demand for interneships and residences for a period of three months to a year.

To prepare for the practice of obstetrics as a specialty the newly formed American Board of Obstetrics and the White House Conference express the opinion that three to five years should be spent in a teaching institution and to prepare for teaching and research work in obstetrics the period of time should be extended to five to ten years. While serving in this capacity one may occupy a subordinate position on the teaching staff.

The road to efficiency in the practice of obstetrics is not short nor is it easy. Years of training are required and the reward will be expressed not so much in things monetary but in the saving of more mothers and babies—this is the ultimate goal of obstetrics.

1. Jeff Miller—Southern Medical Journal, Vol. XIX, No. 12, Dec. 1926.

2. New York State Medical Journal, March, 1929.

LIABILITY INSURANCE*

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Malpractice, defined, means wrong practice. Applied to the practice of medicine in a legal sense, in the minds of the present day juries, means malpractice, with emphasis on the *mal*.

A review of a number of petitions alleging malpractice against physicians during the past few years discloses various and sundry reasons set forth as a basis for the bringing of a malpractice law suit. In fact, it would seem that the number of charges enumerated in some of these complaints is determined only by the limited knowledge, of the case in question, possessed by the plaintiff's attorney bringing the action against the physician.

Most of the petitions contain certain stock accusations, such as ignorance, incompetence, negligence, unskilled and unscientific treatment, improper diagnosis or treatment supplemented with any other specific charge or charges that may be coupled with the particular case in hand.

It would seem they try to prepare something in the form of a "shot gun prescription", hoping somehow to hit the mark in the minds of the jury. And as proof that they do not always miss, we are reminded of judgments rendered in eight cases, totaling more than $80,000.00, that have been adjudicated in our state during the past four years. This does not include two other cases outside of the state with which we have been associated which would bring the total to more than $110,000.00.

Of these eight cases, in Nebraska, five were carried to the Supreme Court where the judgments were affirmed against the physician. Two were settled for $14,500.00 before going to trial, while the other was settled for $8,500.00 after a $10,000.00 verdict had been rendered in the district court.

During this time we have record of more than one hundred threats or suits of somewhat minor importance that have been filed against physicians. Most of these have never materialized, due in a great measure, we believe, to the working of your Medical Legal Defense Committee, by securing the cooperation of physicians who sometimes are given to interest themselves adversely in these cases. in a somewhat incognito manner. In not a few instances we have gone directly to the attorney bringing the suit and have been able to dissuade him, and he in turn to convince his client there was no cause for action.

Malpractice law suits against the physicians have increased more than 200% in the past five years over the preceding five, and about 500% over the preceding ten years. This fact is revealed by an analysis of the questionnaire recently conducted by the Medical Legal Defense Committee at the request of the Council of our State Medical Association. The data secured by this questionnaire provides food for thought, and we may well pause and ask the question—why this marked increase of malpractice suits during the past ten years? We believe a discussion of the question is in order.

First, let us see what class or type of physicians is most frequently sued? A study of the record shows none exempt. Men of the highest standing come in for their proportionate share, as well as those lower down the scale. Lawyers, who are given to bring this kind of a suit, are no respecter of persons. Their chief concern would appear to be, "Is the physician insured or is his financial standing such as to probably make an action of this sort worth while". Certainly they cannot be interested if their prospect is found to be judgment proof.

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Second, what type of individual is usually plaintiff in malpractice suits? Answer: Usually those below the average of intelligence, of the "ne'er do well" type, easily influenced and often possessing quite fertile imaginations.

Third, what type of cases furnishes most of the malpractice law suits? Answer; Surgery, including fractures, accounts for most of the cases. X-ray formerly furnished a fair number of cases, but of late are comparitively few. Radium has an occasional case, with failure to diagnose, abandonment, improper treatment, libel, slander or whatever charges the lawyer bringing the suit may see fit to allege. The medical man, or so-called internist, is very seldom the recipient of a malpractice suit.

Fractures account for a goodly number of cases. Given a fracture of any consequence involving a joint in the type of individual described in question number two, and the doctor lives in mortal fear, hoping that the patient may fail to come in contact with lawyers of predatory inclinations, until the statutes of limitation have expired.

No matter how hard the doctor may have worked, nor how excellent the result obtained considering the type of injury, this will not serve as a bar to the bringing of a malpractice suit against him and giving some lawyer an opportunity to put his hand down in the pocket of his doctor neighbor and attempt a more or less legalized robbery in the way of a fee calculated on a contingent basis.

Our experience is that more than 80% of the suits brought against the physician are "shake downs". Some are filed in the way of cross petitions where the doctor has brought suit to collect a fee. As a matter of justice, just how a lawyer can conscientiously bring an action of this sort, I can't see. Of course I am not a lawyer. Presumably he justifies his action on the premise that right or wrong, he is protecting his client's interest. This may be sufficient.

This may sound like more or less of an inditement of the legal profession, but such is not the case. We are well aware that the rank and file of the legal profession view with disfavor, the fostering of this type of case, and the leading men of the profession are found defending these cases.

I do not wish to be understood as contending that medical malpractice never occurs. It does sometimes occur. Mistakes and accidents are bound to happen, but they are comparatively infrequent. As a matter of policy and self protection, we are obliged to fight every case unless liability is plainly evident. One malpractice suit begets another, and it is not the laity who need education along this line, so much as the lawyers who are given to cater to this class of business.

As a general thing, it is usually the case with which the physician has worked hardest, had more grief, and received little or nothing for his time and trouble, that results in a malpractice suit. Too frequently it happens, that for his pains-taking efforts, he is presented with a copy of a petition which charges him with ignorance, negligence, unskillful and brutal treatment, and a dozen other things equally as bad or worse. And to him it seems they are not content to say it once, but when once stated, each succeeding paragraph seems to reek with a reiteration of his incompetency, so that by the time he has read the entire harangue, he feels like a criminal and doesn't know whether to give the poor benighted plaintiff a deed to his home and a mortgage on his future, or to rush over to the lawyer's office and prove to him he is just as bad a character as the complaint alleges.

If perchance his better judgment causes him to defer action, he later has the pleasure of hearing himself held up to the court, jury, and the gallery of spectators, as being about everything that any self respecting man would not care to be. This is what happens in most of these cases, and win, lose, or draw, the attorney loses the respect of not only the defendant doctor but others of the medical profession as well.

This is an insurance age. Nearly everyone carries liability insurance of some kind, and many physicians carry malpractice insurance. We believe that only competent medical men are capable of passing upon the question of malpractice and, such being the case, lawyers might well submit their proposed malpractice cases to recognized authorities and leaders in the medical profession for opinions and judgment, rather than going about the country to resurrect some old antiquated fossil, who has always been somewhat of a "scape goat" in the medical profession and rely upon this type of a witness to get his case to the jury.

Their reasoning and aim is: that, if they can get the case to the jury, they will rely upon the two things that decide the case in the minds of most jurors, namely: sympathy and prejudice. They are therefore not always particular as to the type or standing of the medical expert they employ, so long as he can qualify as an M.D. and will swear that the treatment employed was improper. In many of the courts, particularly out over the state, this will suffice to have the case submitted, and that is what is hoped for.

I have indicated to you that we usually have a "shyster lawyer" to contend with in these cases, but he is not the most vicious party connected with a case of this sort. There must be, of necessity, at least one other of the "scape goat" variety in evidence, or no case for malpractice would ever be submitted to the jury: I refer to that member of our own profession, who either by word or deed, or by *intimation* or *insinuation*, first put in to the mind of the patient the idea that there was something not just right. Something left undone that should have been done.

By assuming that all wise attitude, supercilious and sneering like in the discussion of the former treatment, or by ignoring former methods of treatment as not being worthy of consideration by one of his pretended ability. And as is usually the case, they talk too damn much.

There are two reasons why a doctor does this sort of a thing. Primarily, should say one—and that is, he is not of that big, considerate, broad type of thinking individual who we like to call a man. He belongs to the lower register, and is prompted in his action by one or both of two motives. First, envy and jealousy with reference to his neighbor physician whom he is pleased to call his competitor, rather than colleague, and fails to realize that envy and jealousy contain not one single constructive element.

The other motive is expressed by that class of individuals who seemingly suffer from some sort of inferiority complex. And with no particular thought of maligning the former physician, they, perhaps, more or less, unconsciously sow the seed of dissatisfaction in the mind of the patient, by their untiring efforts to impress upon him how unfortunate the patient was, not to have wandered into *his* office ere the disease had progressed to its present proportion.

And while definite condemning statements may not be made to the patient, some physicians have a way of carrying on a conversation with themselves while going about the care of the case, that frequently serves to arouse the suspicion of the afflicted one and cause him to question whether or not his former treatment had been proper. And once the proper type of patient gets to thinking along this line, it is only a short step to a malpractice suit, providing a little encouragement is received from one of the members of the legal profession. Of course, this will all depend on whether he can arrange with some physician to swear that the treatment was improper.

The physician above referred to, would never appear as a witness for the plaintiff in a suit of this kind. Even after an indiscretion, such as mentioned, he is most apt to fold his hands in prayerful attitude, and bemoan the fact that patients generally are so unappreciative. Nor does he stop to think that his own attitude and actions in connection with the case were first responsible for the patient's dissatisfaction. This type of physician need bear no ill will toward the other. His action is prompted solely by that innate desire of the inferiorty complex type, which desire is permitted to operate unrestrained in the attempt to minimize the efforts of others, that his own may be more appreciated.

As previously stated, malpractice suits in Nebraska have increased five fold within the past ten years. We do not believe this is due to the fact that malpractice has been more prevalent during that time, for certainly the standard of medical practice is constantly becoming better. Then why this alarming increase? We believe the answer in the majority of cases is the same as that given for the many changes that have taken place in the social and economic status of people in general, during this same period.

The past ten years has been a period of financial depression that has gradually grown worse, up to and including the present. Many people have been, and are now, resorting to various means of making and obtaining money with little or no regard as to the justness of the method employed. This situation, coupled with the fact that we have a few lawyers of the ambulance chasing type, looking for some easy money, is responsible for most of malpractice lawsuits. This has been aided and abetted in a few localities by the personal enmity of neighboring physicians, to the extent that an epidemic of suits have resulted, which ultimately redounded to the credit of no one, but rather to a loss for those directly concerned. While a few personal grudges may have been gratified, the cause of medicine in the state of Nebraska has suffered, and each physician in due time will be called upon to pay his share. Already one company, which writes more than half the malpractice insurance in Nebraska, has boosted their rates 38% on their standard policy, effective April 1, 1931.

This increase in insurance rate was not wholly unexpected. The Medical Legal Defense Committee, in its report to the Board of Councilors at its Annual Meeting in January, suggested the probability of a raise. The Council instructed the Committee to prepare a questionnaire and mail to all physicians in the State, which was done. 1046 cards have been received to date, which tabulated gives us the following information:

Cards returned	1046
Members of State Medical Association	1001
Number Insured	697
Amount of Insurance.	
5 and 15 thousand	4
10 and 30 thousand	603
15 and 45 thousand	3
20 and 60 thousand	60
Over 20 and 60 thousand	27

The number of threats and malpractice suits were tabulated as follows:

From 1885 to 1910	24
From 1910 to 1915	21
From 1915 to 1920	14
From 1920 to 1925	52
From 1925 to 1930	112

It will be noted from this tabulation that one in every six physicians in the State has suffered a threat or an actual suit during the past ten years.

Since malpractice insurance is a question of importance to every physician, I am requested by the Insurance Committee to briefly review the history leading up to the acquisition of the Group Insurance Policy by the State Association, and discuss the present status of malpractice insurance in the State at this time.

Prior to 1925, most of the physicians in North Platte and vicinity were insured as individuals in a company writing malpractice insurance. Malpractice suits were filed against some of these physicians with the result that when time came for renewal of their individual policies, each in turn was cancelled. This fact was presented to the Council of the State Medical Association, by the Councillor of that District, and an Insurance Committee was appointed to report on the feasibility and advisability of adopting the Group Insurance Plan. This Committee negotiated with several different Insurance Companies and recommended a contract as proposed by the United States Fidelity & Guaranty Company of Baltimore. This was adopted by the Council and a master policy was issued to the Secretary of the State Medical Association. Individual members of the Association applying for the Group Insurance were issued certificates, the expiration date being the same as the master policy which went into effect October 1926. This policy was liberal in its provisions for coverage and cost $20.00 per year for the standard policy of $10,000 for one suit or $30,000 for one year. This policy has remained in force at this same rate up to the present time.

Only members of the State Medical Association can obtain this policy, and any member can insure under it. No individual contract can be cancelled for any cause. Only the master policy, which effects all members, can be changed or cancelled. No settlement of any suit or claim against a physician can be made without the sanction of the physician and the Medical Defense Committee of the State Medical Association.

This non-cancellable feature and the inability to settle unwarranted claims as obtains with other companies we believe to be a most important feature of this contract. The cost of protection under this policy is less than any other written in the State.

To date, the Company writing the Group Insurance, has lost money, due to the fact that only about 25% of the Association membership carry the Group policy. A raise in rate is inevitable unless more members carry the Group Insurance. 88% of physicians insured carry the standard policy of 10 and 30,000. The Medical Protective of Fort Wayne raised the prices on this group 38% on April 1st. At the same time they lowered the rate on the remaining 12% a little more than 10%. Illustrated in dollars and cents and applied to the entire state, it would mean an increase in premium rate of $12,690.00 for the standard policy of 10 and 30,000, and a reduction in premium of $864.00 for those carrying larger policies. This, in the face of the fact that there have only been two verdicts in the history of the State exceeding $10,000, would seem unwarranted. By comparison of their present price of the standard policy, and the same policy under the Group plan, for the entire State it would be $45,936 for the Fort Wayne and $31,680 for the Group, or a saving to physicians of $14,256.

Your Committee does not presume to dictate as to where anyone should carry his insurance, however, we do feel the need and advisability of maintaining a non-cancellable policy with a uniform rate and of moderate price, such as the State Association Group Insurance policy affords.

THE ROLE OF THE HISTORY IN THE DIAGNOSIS OF TUBERCULOSIS*

MILES J. BREUER, M. D.,
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The struggle against tuberculosis is a different kind of a fight than it was a generation ago. Instead of an unequal and uncertain ordeal with the advanced stages of the disease, it is now a matter of early diagnosis. It is now well recognized that the only hope of doing much good in the campaign against this disease, is to recognize cases early. If this is to be accomplished, it cannot be done by sanatoriums and specialists; it must be done by the man in the field who handles the general run of illnesses and listens to trivial complaints.

It is the early case that presents the greatest diagnostic difficulties. To establish the diagnosis in a severe, advanced case, is a relatively simple, straightforward matter. The early case requires study, training, experience. As these cases do not get to the chest specialist until they become advanced and poor in therapeutic expectancy, it is the duty of every practitioner to equip himself to recognize them.

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*Read before annual meeting, Nebraska State Medical Association Omaha, May 12-14, 1931.

If we wish to diagnose an effective percentage of early cases of pulmonary tuberculosis, we first of all must get over the mental habit of looking for a lesion in the lungs. A large proportion of these cases have no clinically demonstrable lesion in the lungs. The diagnosis must be made on the basis of a study of the patient's entire body, and of his entire life and personality, taken in connection with his environmental setting. Naturally, a very thorough and complete examination of the entire body is necessary, including physical, laboratory, and x-ray examinations. But preliminary to all these, and indispensable to arriving at a correct conclusion from their results, must come an adequate history.

In such fields as gastro-enterology and neurology, stress is laid on the history as the most important factor in the diagnosis. In tuberculosis, a proper history is of no less importance than in peptic ulcer and gallbladder disease. Such a history requires time, patience, skill, and experience. If done hastily, or turned over to an inexperienced assistant, it is apt to prove valueless, if not misleading, in the diagnosis.

The requirements for obtaining a history complete enough and accurate enough to be of diagnostic value, fall under two categories. The first thing that is necessary is an understanding of the theoretical conceptions underlying the information we desire to elicit. The second is, that numerons and accurate details must be extracted from people who do not know what to tell nor how to tell it. The physician must have in mind the modern conceptions of etiology and pathology in tuberculosis, and their concrete, everyday manifestations in the life of the patient.

Etiology: The real cause of tuberculosis is found far less in the tubercle bacillus and far more in the maladjustment of the individual to his environment. The bacilli are present everywhere in a civilized environment; with little exception, they have an equal chance at all of us. Modern life is strenuous, and not all individuals are competent to carry its burdens. Many go down, not because of the bacilli primarily, but because the struggle was too hard. In addition to this factor, excessively heavy or frequent doses of infection in early life must be included in the etiology. At the present day, this is relatively less important as a cause of the disease than is stress. Such stress may consist of overwork, financial worries, failure to win that recognition among his fellows that every human being craves, erotic misadventure, or debilitating physical states such as infections, scarlet fever, influenza, pneumonia, or such as malnutrition due to dietary defect, nephritis, anemia, or to lack of balance in the endocrine or autonomic nervous systems. Therefore, there must be a detailed inquiry into the following items:

History of possible association with open cases in childhood; not merely in the family, but among neighbors, friends, and other possible contacts.

The patient's work; all the jobs he has ever held; the actual work he did, how hard it was; working conditions, such as ventilation, intoxicants, pressure, responsibility. His attitude toward his job, whether tense and strained.

Habits of worry; ability to forget troubles; ability to relax.

The patient's successes and failures in life, both as regards his own ambitions and satisfactions, and as regards their aspect to the external world.

His domestic relationships, or their psychic substitutes.

History of all past illness; in which diagnoses as reported by the patient cannot always be accepted at face value. They must be checked up by detailed questioning as far as possible. Reported diagnoses are frequently inaccurate and misleading: the patient does not remember accurately, misunderstood the doctor, or there has been a change in medical methods since his diagnosis was made; now we are more critical than we used to be, and call things by different names. No longer do we call every fever a malaria and every epigastric pain an ulcer or an appendicitis.

Immunity: Immunity is often confused with allergy. The two are not the same. Immunity is that property of the tissues by virtue of which the bacilli are unable to survive in the body. It may be conferred by dead bacilli, but only in exceedingly large doses. The great mass of people living under civilized conditions acquire a immunity to tuberculosis by coming in contact with small doses of infection throughout life. If there is a disproportion between the size and frequency of the doses and the patient's ability to handle them, he becomes a tuberculosis problem. In a history of the case being studied, if there is evidence of repeated attacks of reinfection over many years, we may conclude that he possesses a certain amount of immunity, or he wouldn't be here today to be telling his tale. A person who has spent his life in the open and away from cities, possesses no such immunity, and is in danger of prompt death from the disease if he gets into a civilized environment and remains there; the same amount of ubiquitous infection that never bothers the rest of us would be too much for him.

Allergy: Allergy is an altered reactivity of the the tissues produced by previous contact with the protein of tuberculosis. A baby coming for the first time in contact with tuberculosis does not become ill, even though the infecting dose is sufficient to kill it. But subsequent infections, whether from the exterior or from the reopening of a previous healed lesion, produces a reaction which we recognize as inflammatory in character, and term allergy. Allergy is one of the two phenomena which are responsible for most of the symptomatology of a tuberculous patient. Fever, malaise, fatigue, headache, tachycardia, loss of appetite and weight (the so-called toxic symptoms), exudation and necrosis, are the manifestation of allergy. Information obtained in history taking must therefore include a thorough and complete list of these so-called toxic manifestations, covering the patient's entire past life. Evidence of allergic manifestations, elicited in the history signifies two things: that the patient had a previous tuberculous infection before the particular symptoms occurred, and that he had another infection at the time that they occurred. The attacks are frequently not recognized as tuberculosis at the time; but as we look back upon the whole story, it becomes quite clear.

Pathogenesis: In order to understand the patient's present condition, it is necessary to trace its development through the patient's past life to its present stage. In order to accomplish this, an understanding of the pathological development of tuberculosis is necessary. As a rule, the initial, symptomless, sensitizing infection occurs early in childhood in the vast majority of cases. Krause's hypothesis of the mouth as the principal portal of entry, on the basis that small children put everything into their mouths and therefore most of them will put in a good many tubercle bacilli before they grow up and quit playing in the dirt, seems most reasonble. There then occurs the localization and encapsulation of the bacilli in the deep cervical and mediastinal lymph nodes. Reinfections occur at intervals, either from without, or by the breaking down of the protecting capsule of the focus; a spread of the bacilli and an extension of the infection into new tissue results, accompanied by its clinical symptomatology consisting of allergic symptoms and visceral reflex symptoms. A well taken history will show the panorama in the patient's past life, of attacks of illness, not necessarily recognized as tuberculosis, with periods of well being in between, dating back either to early childhood or to a definite precipitating cause like an attack of influenza; and in progressive cases, the increase in frequency and severity of the attacks, and the gradual decline in the patient's general condition will be evident. In order to get this picture, however, a painstaking history of the patient's entire life from the earliest childhood to the present day, is essential. A consecutive story of his ups and downs will do a great deal to help us interpret the significance of his present symptoms and findings, and predict what will happen to him in the future. The patient who is ill only when he overstresses, the one who gets neither better nor worse no matter what he does, the one with sudden, unheralded onset of severe illness, the one who keeps gradually going down in spite of all possible care, may all have exactly the same symptoms and findings at the present examination, and yet differ vastly in their pathology and prognosis.

Visceral Reflexes: The visceral reflex is, to the person untrained in neurology, the most puzzling phase of clinical tuberculosis. Gatro-intestinal pains, pelvic symptoms, dry cough, asthma, bradycardia, husky voice or aphonia, coming and going without apparent rhyme or reason, seem to have no connection with a supposed disease of the lungs. They are intelligible only after we understand that they are due to the hyperirritation of a spinal segment by non-sensory afferent impulses from an inflamed viscus, such as the lung, so that as a result the outgoing impulses from that same segment are abnormal. Also, because of the hyperirritated state of the segment, the incoming stimuli from other areas than the inflamed area, are abnormally received, and may be identified with the latter. Thus, the sensory areas about the shoulder-girdle connect with the 3rd and 4th Cervical segments, which also receive stimuli from the middle and lower lung. A lesion in the latter may be felt as a pain in the shoulder. Thus, a multiplicity of aches and pains, as well as muscular and bony atrophies, hypertrophies, and asymmetires, may point directly to lung pathology.

The actual procedure of questioning the patient must be systematically planned, not only for the purpose of securing, with a minimum expenditure of time and effort, all of the information about the tuberculosis, but also to shed light on the possible existence of associated pathology that is not tuberculous. It is not possible to secure improvement in a tuberculous patient if he is being held down by a chronic gallbladder or an infected sinus. The sequence used above in presenting the material theoretically is not an efficient one for practice: it is advisable to cover the ground systematically with regard to the patient rather than to the theoretical aspects. Therefore, the usual, conventional arrangement is advised; in which the family history and past illness form the best beginning. Then, the story of the patient's physical state, weight, activity, strength, and ups and downs from the earliest childhood memories to date. Next in order should come the patient's habits: in regard to work, play, exercise, outdoors, food, drugs, stimulants; also covered in detail. To ascertain, for instance, the adequacy of the patient's diet, he should be asked to enumerate the actual articles and amounts eaten during a typical day, and these should be figured into calories and balanced for dietary elements.

Then we should consider the onset, tracing it back to its earliest beginnings if it is a gradual one; ascertaining the precipitating cause if a sudden one. The first symptoms, subsequent symptoms in order of appearance, the circumstances or situation under which each developed, the progress of the entire picture up to date, especially its effect on the patient's ability to work and earn a living and to enjoy life, must be worked out in detail. Present symptoms should be elicited by system-groups: cardiovascular, respiratory, gastro-intestinal, genito-urinary, nervous, infectious; each being treated as exhaustively as possible. Previous diagnoses, and previous treatment with results, should be recorded.

Admitting that it takes skill and experience to elicit such a history, the writer feels that no one is so skilled and experienced that he can do it from memory. Memory, unaided, in the presence of the complaining or loquacious patient, and of the distractions of work in the office or sickroom, cannot be trusted to yield completeness and thoroughness. Unless one works from an outline or a blank, carefully planned and deliberately compiled during leisure periods when concentrated thought was possible, omissions, sidetrackings, and errors will result.

With a proper history, so characteristic is the information obtained, that in many cases a presumptive diagnosis and prognosis can be ventured before any examining is done. Without a proper history, the findings of the most careful examination may be misinterpreted, wrong conclusions drawn, and inappropriate treatment instituted.

PERSONAL EXPERIENCES WITH SPINAL ANESTHESIA*

JOSEPH KUNCL, Jr., M. D.,
Slagle Clinic,
Alliance, Nebr.

Spinal Anesthesia was introduced in 1888 by J. L. Corning of New York. His method consisted of injecting cocaine into the spinal canal. In the following year August Bier of Bonn developed it farther by experimentation. It was found to be impractical because of the toxicity of the cocaine and was abandoned. With the discovery of stovaine in 1905 spinal anesthesia was revived but after some time was again discontinued and this type of anesthesia fell into disrepute.

With the introduction of novacain interest in spinal anesthesia was again revived. However on account of the former bad experiences it was slow to acceptance and many leading surgeons attempted to discourage it. In the face of this opposition a few men demonstrated its practibility and the past few years show much in the way of development and standardation of technic, and there is now but a small minority that attempts to discourage it. It is being used in practically every hospital of any size in this country.

This paper is based on 100 consecutive personally administered cases of spinal anesthesia which were operated by members of our clinic beginning December 1929 when we began using it. While we are free to admit that we have only a small series of cases we feel that thus far we can agree with its enthusiastic supporters and think it is here to stay. We feel that the respiratory complications are lessened and the condition of the patient post poperative is better than following inhalation anesthesia. We have made no attempt to use it routinely. All of our work with spinal anesthesia has been below the diaphragm.

TECHNIC

We have followed Labat's technic except that we have the patient lie on the left side instead of sitting when the lumbar puncture is done. In all of our cases we have used 12 mgms. of neocaine dissolved in from two to three cubic centimeters of spinal fluid preceded by one cubic centimeter of ephedrine-novacaine solution as a local anesthetic for the needle puncture and for maintenance of the blood pressure. Our preoperative medication consisted of morphine gr. ¼, atropine gr. 1/200, scopolomine gr. 1/100 by hypodermic one hour before operation. Spinal anesthesia while it eliminates the pain sensation does not eliminate the touch sensations and in cases where the scopolomine was not given soon enough or in insufficient dosage some of the patients were disturbed by these touch sensations. The neocaine dissolved in three cubic centimeters gives anesthesia to the nipples and is sufficiently high for any abdominal work. The anesthesia lasts about an hour but due to the fact that abdominal work is facilitated with this anesthetic, we were able to finish within that time except for a few instances. In those cases we were able to finish under nitrous oxide.

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*Presented at Box Butte County Medical Society, April 31, 1931.

Contraindications: There is a great deal of disagreement on the contraindications for spinal anesthesia. We have tried to avoid the type of patients that would come in the following list:

1. Myocardial degeneration and cardiac decompensation.
2. Extreme hyper- and hypotension.
3. High pulse pressure. If the pulse pressure was greater than the diastolic pressure we would not use spinal anesthesia.
4. Septicemia.
5. Organic disease of the central nervous system.
6. Extreme depression of any type.

While we do not wish to enter any controversy as to whether the above are contraindications or not we have used it in that manner.

The ages of the patients in our series varied between 13 and 75. We recently successfully used it in a patient aged 81 not included in this series.

TYPES OF CASES OPERATED

Appendectomies	30
Inguinal Hernias	18
Gangrenous Appendicitis	10
Rectal operations	8
Perineal repairs	4
Hysterectomies	4
Bilateral Ing. Hernias	3
Ventral Hernias	3
Pelvic laparotomies	3
Intestinal Obstruction	2
Strangulated Femoral Hernia	2
Appendectomy and Hernia	2
Perforated Gastric Ulcer	1
Pelvic abcess	1
Prostatectomy	1
Strangulated Ing. Hernia	2
Cholescystectomy	1
Supra pubic Cystotomy	1
Gastro enterostomy	1
Vaginal Hysterectomy	1
Colostomy	1
P. O. Ruptured Wound	1

There were three deaths in this series none of which we attribute to the anesthesia.

Case 1; No. 30111, Mr. I. J. P. Age 57. Complained of a large Rt. inguinal hernia of 30 years duration. It was about the size of a football. A truss would not hold it up and he was having difficulty in walking. He also complained of some dribbling and nocturia which appeared to bother him periodically.

Physical examination revealed a rather sturdy, ruddy short-necked individual appearing in good health. No abnormalities except the hernia and moderate hypertrophy of the prostate. B.P. 150/90. Urinalysis showed a trace of albumin. P.S.P. 50%. No residual. N. P. N. 33 mgms.

Patient operated Jan. 9th, 1930. Operation went along nicely. Pulse 60 when operation was completed. Put to bed in good condition with foot of bed raised. Pulse 70 1 hour later. Patient was sleeping comfortably most of the afternoon. At 7 p. m. patient became pale, pulse was thready and rapid (120) T 98.6. Patient had a paralysis of the right side of the face and weakness of the left arm. At 12:30 a. m. respirations were difficult and he expired 1:15 a. m. We felt that this was an embolic death.

Case 2. Mrs. L. D. B. 30367. Age 70. On Mar. 9th patient was brought into St. Joseph's Hospital in a state of collapse. She was vomiting and complained of pain and swelling in the right groin. Physical examination revealed a large strangulated right femoral hernia which patient's family stated had been down 2½ days and that they had been unable to reduce it. A doctor was called several hours previous to admittance to the hospital and he had been unable to reduce it and advised them to take her to the hospital. Pulse was 126.

She was operated immediately and a loop of bowel was found in the sac that was red and swollen. Hot saline packs were applied to it and there was some question as to its viability but we felt that the patient's condition would not permit a resection. The patient died the fourth post operative day from ileus. There is a question in our minds whether or not it was good judgment to operate this case.

Case 3. Mrs. G. M. R. Age 40. Ovarian cyst removed Dec. 30, 1930, under general anesthesia. Convalescence normal except for severe bronchitis. Patient coughed severely. On Jan. 7th patient coughed and broke open her incision. She was taken to the operating room and under spinal anesthesia the protruding intestines were irrigated with normal saline solution and the incision closed. She died on Jan. 11th from peritonitis.

In only four of the cases was the anesthesia unsuccessful. In one case there was a dry tap and in the other three the scopolomine effect was not pronounced enough and the touch sensations made the patients uncooperative.

Four patients complained of precordial pain during the operation. It lasted only a few minutes and seemed to pass off without ill effects. There were five post operative headaches all of which were mild. More patients have to be catheterized and for longer periods than with inhalation anesthetics. Mr. R. McC., aged 28, 31215, an epileptic, had a seizure on the table during an appendectomy. He made an uneventful recovery.

SUMMARY

1. 100 consecutive personally administered cases of spinal anesthesia presented with 3 deaths none of which are attributable to the anesthetic.

Contraindications and technic.

We feel that spinal anesthesia is well established and here to stay.

REFERENCES

1. Regional Anesthesia by Gaston Labat. W. B. Saunders Co. 1924.
2. Spinal Anestesia, V. E. Johnston. Amer. J. Surg. Mar. 1931. p. 478.
3. Spinal Anesthesia, Wayne Babcock. Oxford Surg. Vol. 1, p. 139.
4. Spinal Anesthesia, Harry Koster. Amer. J. Surg. Dec. 1928, p. 554.

PROCEEDINGS OF HOUSE OF DELEGATES AND COUNCILORS NEBRASKA STATE MEDICAL ASSOCIATION, ANNUAL MEETING, OMAHA, MAY 12, 13, 14, 1931

HOUSE OF DELEGATES
FIRST SESSION

Fontenelle Hotel, May 12, 1931—12:30 P. M.

The House of Delegates was called to order by Dr. K. S. J. Hohlen.

Motion was made that inasmuch as the minutes of the 1930 meeting had been published in the Journal that the reading of them be dispensed with and that they be approved and adopted as published. Seconded and carried.

Roll call by Secretary Adams showed 50 members present. Then followed the regular order of business.

Motion was made that Dr. Ward Miller of Arapahoe be seated as a delegate from Furnas County. Seconded and carried.

Motion was made that Dr Homer Davis of Genoa be elected as president pro tem. Seconded and carried.

The report of the Council was called for. The motion was made that inasmuch as this report of the Council had been published that the reading of the report be dispensed with and that it be adopted as published in the Journal. Seconded and carried.

The report of the Medical Legal Defense Committee was called for. Motion was made that Dr. Fouts read his paper on the report of the Medical Legal Defense Committee before the afternoon session of the general assembly. Seconded and carried.

Motion was made that Dr. R. F. Decker be seated as a delegate from Thayer County. Seconded and carried.

The report of the Public Policy Committee was called for. Inasmuch as this report was published in the Journal and inasmuch as Dr. Bailey was absent from this meeting a motion was made that this report of the Public Policy Committee be postponed. Seconded and carried.

The Campaign Committee report was called for. Dr. Hohlen had nothing further to report than had been made to the Council at their January meeting.

The Insurance Committee report was called for, which was read by Dr. Selby, chairman of the Insurance Committee. Motion was made that this report of the Insurance Committee be received and referred to the Council. Seconded and carried.

The report of the Secretary-Treasurer was called for. Secretary Adams stated that inasmuch as both the program committee and the Secretary's report had been published, he saw no necessity of reading them again. Motion was made that the reports of the program Committee and Secretary be accepted as printed in the Journal. Seconded and carried.

The report of the Committee on Medical Education was called for. Motion was made that this report be read before the General Sessions. Seconded and carried.

Dr. Stark made the motion that the House of Delegates request that the report of Dr. Fouts on Medical Legal Defense Committee be read Tuesday afternoon immediately following Dr. Davis' paper at the General Session. Seconded and carried.

The report of the Public Activities Committee was called for. This report of the Public Activities Committee was read by Dr. Hays, chairman of the Public Activities Committee. Motion was made that this report be referred to the Council. Seconded and carried.

The report of the Medical Student Loan Fund Committee was called for. Secretary Adams read the report by this Committee. Motion was made that this report be received and referred to the Council. Seconded and carried.

The report of the Committee on the Cost of Medical Care was called for. Secretary Adams read this report. Motion was made that this report be received and referred to the Council. Seconded and carried.

Dr. Overgaard read the Necrology Report. The members remained standing during the reading. Motion was made that two pages be set aside in the Journal in Memoriam to these doctors. Seconded and carried.

Dr. Selby read the following resolution:

"Whereas, the membership of the House of Delegates of the Nebraska State Medical Association is called on to transact the business of the State Association and which duties require time, that most members would prefer to be present at the General Scientific Sessions offered by the Association, and

Whereas, it is the desire of the House of Delegates to so arrange its business sessions in order to make it possible for its component delegates to avail themselves of as much of the scientific matter presented to the General Sessions.

Therefore, be it resolved that beginning with the year 1932 the President of the Nebraska State Medical Association be empowered and is hereby instructed to call the initial meeting of the House of Delegates to convene the evening preceding the first day of the annual convention; That such business as may properly come before it may be transacted. Be it further resolved that the second session of the House of Delegates shall hereafter be held at 8 a. m. on the first day of the convention and that the third session shall be held at 8 a. m. on the last day of the convention assembled." Motion was made that the House of Delegates adopt this resolution. Seconded and carried.

A suggestion was made that the President appoint an advisory committee to the Women's Auxiliary, one member of such committee to reside in the town in which the President of the Auxiliary resides.

Dr. Johnson asked permission to give a verbal resolution in regard to the eradication of tuberculosis.

Dr. Johnson was asked to bring this resolution before the House of Delegates at its next session in written form, for their consideration.

Nominations for the members of the nominating committee were called for, each Councilor to name a member from each Councilor District.

The nominations were made as follows:

1st District—Dr. Louis Bushman.
2nd District—Dr. Geo. Covey.
3rd District—Dr. Geo. W. Eggermeyer.
4th District—Dr. R. B. Frary.
5th District—Dr. W. E. Wright.
6th District—Dr. J. M. Woodard.
7th District—Dr. J. J. Bixby.
8th District—
9th District—Dr. Earl Johnson.
10th District—Dr. J. N. Campbell.
11th District—Dr. O. R. Platt.
12th District—Dr. F. B. Young.

Motion was made that the meeting adjourn. Seconded and carried.

HOUSE OF DELEGATES
SECOND SESSION

Fontenelle Hotel, May 13, 1931, 8:00 A. M.

The meeting was called to order by Dr. Lucien Stark. Roll call by Secretary Adams showed 40 members present.

Dr. R. B. Frary was appointed to serve on the nominating committee from the 4th district.

The minutes of the first session were read by Secretary Adams. Motion was made that the minutes as corrected be adopted. Seconded and carried.

Motion was made that Dr. Selby's resolution concerning the changing of the time of the House of Delegates be reconsidered and that this resolution be referred to the Council. Seconded and carried.

Dr. Johnson's resolution in regard to the eradication of tuberculosis in animals was in order.

Motion was made that a committee of three of which Dr. Johnson is chairman be appointed to revise this resolution and that this committee bring the revised resolution back to the next session of the House of Delegates for further consideration. Seconded and carried.

The following committee was appointed by President Stark to revise Dr. Johnson's resolution: Drs. Johnson, Bailey, Koebbe.

Dr. Overgaard read the minutes of the first Councilor meeting. Motion was made that the minutes be adopted. Seconded and carried.

Dr. Bailey read the reports of the Legislative Committee and his report as delegate to the A. M. A. Motion was made that both reports be adopted and referred to the Council. Seconded and carried.

A suggestion was made that all reports similar to that of Dr. Bailey's as delegate to the A. M. A. be put in the regular order of the program so that all members of the association may hear them.

Motion was made that the report of the Delegate to the A. M. A. hereafter be published in the Journal shortly after the meeting of the A. M. A.

Motion was made to adjourn. Seconded and carried.

HOUSE OF DELEGATES
THIRD SESSION

Fontenelle Hotel, May 14, 1931, 8:00 A. M.

Meeting was called to order by President Dr. Lucien Stark. Roll call by Secretary Adams showed 43 members present.

The minutes of the second session of the House of Delegates were read by Dr. Adams and approved as read.

The minutes of the second Councilor meeting were read by Dr. Overgaard.

A motion was made that these minutes be received and adopted. Seconded and carried.

Dr. Geo. Covey read the report of the nominating committee as follows:

For President-elect: Dr. A. E. Cook, Randolph.

For Vice-Presidents: Dr. A. L. Miller, Kimball; Dr. A. J. Cameron, Herman.

Councilors: 5th District: Dr. Homer Davis, Genoa; 6th District: Dr. D. D. King, York; 7th District: Dr. H. E. Potter, Fairbury; 8th District: Dr. W. J. Douglas, Atkinson.

Delegate to A. M. A.: Dr. A. D. Dunn, Omaha.

Alternate Delegate to A. M. A.: Dr. Geo. W. Covey, Lincoln.

Journal Committee: Dr. A. F. Tyler, Omaha.

Delegate to Council on Medical Education: Dr. J. Stanley Welch, Lincoln.

Chairman of Campaign Committee: Dr. K. S. J. Hohlen, Lincoln.

Chairman of Public Activities Committee: Dr. E. R. Hays, Falls City.

Member of Student Loan Fund Committee: Dr. F. A. Long, Madison.

Respectfully submitted,
Dr. Geo. W. Covey, Chairman.

A motion was made that the report of the nominating committee be adopted. Seconded and carried.

The House then proceded to the election of officers.

Drs. Morris Nielsen and A. L. Miller were appointed as tellers.

The House of Delegates proceeded to cast ballot for President-elect.

A motion was made that inasmuch as the name of Dr. A. E. Cook of Randolph was the only name up for election for President-elect and as there were no other names submitted by the House, that the Secretary cast the unanimous ballot of the House of Delegates for Dr. A. E. Cook of Randolph as President-elect. Seconded and carried.

A motion was made that the Secretary cast the unanimous ballot of the House of Delegates for Drs. A. L. Miller and A. J. Cameron for Vice-Presidents. Seconded and carried.

A motion was made that the Secretary cast the unanimous ballot of the House of Delegates for Dr. Homer Davis, Councilor for 5th District; Dr. D. D. King, Councilor for 6th District; Dr. H. E. Potter, Councilor for 7th District; Dr. W. J. Douglas, Councilor for 8th District. Seconded and carried.

A motion was made that Dr. B. F. Bailey be nominated as a Delegate to the A. M. A. Seconded and carried.

The House of Delegates then proceeded to cast ballot for the two nominees for Delegate to the A. M. A.

Dr. Bailey received 30 votes and Dr. Dunn 11 votes.

A motion was made that inasmuch as Dr. Bailey had received the majority of votes cast for Delegate to the A. M. A. that his election be made unanimous. Seconded and carried.

A motion was made that the Secretary cast the unanimous ballot of the House of Delegates for Dr. Geo. Covey of Lincoln as Alternate Delegate to the A. M. A. Seconded and carried.

A motion was made that the Secretary cast the unanimous ballot of the House of Delegates for Dr. J. Stanley Welch of Lincoln as Delegate to the Council on Medical Education of the A. M. A. Seconded and carried.

A motion was made that Dr. A. J. Brown of Omaha be nominated as a member of the Journal Committee. Seconded and carried.

The House of Delegates then proceeded to cast ballot for the two nominees for a member of the Journal Committee.

Dr. A. F. Tyler received 27 votes and Dr. A. J. Brown 16 votes.

A motion was made that inasmuch as Dr. Tyler had received the majority of votes cast for member of the Journal Committee that his election be made unanimous. Seconded and carried.

A motion was made that the Secretary cast the unanimous ballot of the House of Delegates for Dr. K. S. J. Hohlen as Chairman of the Campaign Committee. Seconded and carried.

A motion was made that the Secretary cast the unanimous ballot of the House of Delegates for Dr. E. R. Hays as Chairman of the Public Activities Committee. Seconded and carried.

A motion was made that the Secretary cast the unanimous ballot of the House of Delegates for Dr. F. A. Long as a member of the Student Loan Fund Committee. Seconded and carried.

Secretary Adams read the revised resolution of Dr. Johnson regarding the eradication of tuberculosis.

A motion was made that the resolution be amended to read as follows:

Whereas the budget of the State of Nebraska contemplates the elimination of the item of $200,000.00 for Tuberculosis eradication in cattle, and

Whereas the medical profession recognize that bovine tuberculosis is a most serious menace to public health;

Whereas the milk from tuberculosis cows is recognized as the medium carrying infection to the innocents of our country, and

Whereas the medical profession recognize its duties fundamental in prevention of communicable diseases;

Therefore, be it resolved by the state Medical Association that the Governor and Legislature of the State of Nebraska is hereby respectfully urged to do all in their power to pass the appropriation bill item providing generously for eradication of tuberculosis in cattle to the end that the health and lives of the citizens of our State and Nation may be thereby preserved and protected, and that the beef and dairy herds of our state may be free to be shipped at all times to states requiring inspection of cattle for tuberculosis.

Seconded and carried.

Dr. Stark appointed Drs. B. R. McGrath and Dr. C. L. Phillips as a committee to bring Dr. A. E. Cook, president-elect, before the House of Delegates.

President Stark presented Dr. A. E. Cook, president-elect, after which Dr. Cook gave a short talk.

The report of Dr. Welch in regard to hiring a Director of Medical Education and conducting Post-Graduate Courses in the state of Nebraska was brought before the House of Delegates.

A motion was made that this report be referred to the Council with power to act. Seconded and carried.

Selection of the place of meeting for the next annual meeting was now in order. Grand Island and Lincoln extended invitations.

The House of Delegates then proceeded to cast ballot for the place of meeting for the next meeting.

Lincoln received 29 votes and Grand Island 14 votes.

A motion was made that inasmuch as Lincoln received the majority of the votes cast for the next meeting place that this vote be made unanimous. Seconded and carried.

A motion was made that the House of Delegates extend to Omaha, the Entertainment Committee and the Fontenelle Hotel a vote of sincere thanks for their courteous treatment of the Nebraska State Medical Association. Unanimously carried.

A motion was made to adjourn. Seconded and carried.

COUNCILOR MEETING FIRST SESSION

Fontenelle Hotel, May 12, 1931.

The meeting was called to order by President of the Council Rork. Those present were Drs. L. W. Rork, H. E. Potter, C. A. Selby, H. J. Lehnhoff, Frank Tornholm, Morris Nielsen, A. E. Cook, W. R. Boyer, A. P. Overgaard, A. L. Cooper, ex-president K. S. J. Hohlen, and president Lucien Stark. Drs. R. B. Adams, F. A. Long, E. R. Hays, F. W. Buckley, Francis Heagey and J. S. Welch were also present.

The subject of an executive secretary was discussed by Drs. Potter, Hohlen, Selby, Adams, Neilsen, Cooper and Lehnhoff.

Dr. Welch gave an illustrative report on the Committee on Medical Education. Motion was made that Dr. Welch give this report to the General Session and that his report on the Committee on Medical Education be reconsidered by the Council at a special session on Thursday morning. Seconded and carried.

Dr. Rowe's report of the Committee on the Cost of Medical Care was considered. Motion was made that this report be accepted and published. Seconded and carried.

Motion was made that the report of the Insurance Committee be adopted and published. Seconded and carried.

Motion was made that the report of the Public Activities Committee be adopted and published. Seconded and carried.

Motion was made that Drs. W H. Evans of Emerson and E. R. Blair of Wayne be recommended to the House of Delegates for election to Honorary membership. Seconded and carried.

Motion was made that the Council adjourn. Seconded and carried.

COUNCILOR MEETING SECOND SESSION

Fontenelle Hotel, May 13, 1931.

The meeting was called to order by President Rork. Those present were Drs. Selby, Rork, Overgaard, Cook, Potter, Cooper, Tornholm, Boyer, Nielsen, Lehnhoff and Hohlen. Drs. Hays Anderson and Secretary Adams were also present.

Motion was made that the Council confer with the chairman of the Medical Legal Defense Committee and a lawyer in regard to Dr. Overgaard's suggestion that a letter concerning x-ray be sent to each member of the State Association. Seconded and carried.

Motion was made that Dr. Bailey's report as Delegate to the A. M. A. be returned to him and that he abstract this report, double-spacing it so that it may be published in the Journal. Seconded and carried.

Motion was made that the Council extend a vote of thanks to Dr. Hays and the Public Activities Committee for the work that they have done and a wish that they continue the work as they have in the past. Seconded and carried.

Motion made that Dr. Bailey's report of the Legislative Committee be accepted and placed on file. Seconded and carried.

Motion was made that the resolution of Dr. Selby relative to a change of time in the meeting of the first session of the House of Delegates be repealed and so changed that the House of Delegates and the Council assemble as follows: The House of Delegates first session to be at 12:30 p. m. of the first day of the meeting and the Council to meet at 7:00 p. m. that evening and that other sessions of the Council be so arranged that its members can attend the General Sessions as far as possible. Seconded and carried.

The following budget was recommended by the Council for the year 1932:

Journal Fund, per member	1.50
Defense Fund, per member	2.00
Salary Chairman Defense Committee	600.00
Salary of Secretary	600.00
Councilor Expense	360.00
Office Expense of Secretary	800.00
Reporter for meeting	150.00
Campaign Committee	500.00
Public Activities Committee	1,500.00
President's Expense	100.00
Salary Chairman of Public Activities Committee	1,000.00
Legislative Committee	100.00
Program Talent	500.00
Delegates to A. M. A. and Council of Medical Education—as submitted	
Medical Student Loan Fund	500.00

Motion was made that this budget be recommended to the House of Delegates. Seconded and carried.

Motion made that Dr. C. A. Hull of Omaha be unanimously re-elected as a member of the Medical-Legal Defense Committee. Seconded and carried.

Motion made that the Council adjourn. Seconded and carried.

COUNCILOR MEETING SPECIAL SESSION

Fontenelle Hotel, May 14, 1931

Meeting was called to order by Dr. Rork. Those present were: Drs. Overgaard, Lehnhoff, Bryson, Rork, Cooper, Nielsen, Tornholm, Potter, Cook and Douglas. Drs. Adams, Hohlen, Heagey, Buckley, Homer Davis, King and Welch were also present.

Report of the Committee on Medical Education was read and discussed. A motion was made that the Council adopt the suggestions of the Committee on Medical Education and that the president of the Council, the president and secretary of the Association and the chairman of the Committee on Medical

Education be instructed to take steps to employ a Director of Medical Education. Seconded and carried.

Motion was made that the Council express their appreciation of the good efforts of the two retiring Councilors, Dr. Frank Tornholm and Dr. Morris Nielsen, who have worked with the Council for a number of years and that a vote of thanks be extended to them. Seconded and carried.

Motion was made that the Council adjourn. Seconded and carried.

REPORT OF THE COMMITTEE ON PUBLIC POLICY AND LEGISLATION

As a detailed report of the activities of the Legislative Committee during the last session of the Legislature we report—

Senate File No. 99: This bill provided for the appointment of only women physicians for the care and supervision of the Insane Women in the state hospitals of the State of Nebraska. It was indefinitely postponed.

Senate File No. 183: The bill was intended to regulate the use of the X-ray machines. The dentists of the state were the sponsors of the bill and did not desire to have this firm appear in the matter. We assume no responsibility for the fact that this bill was indefinitely postponed.

Senate File No. 184: This bill was drafted by Judge Perry of this firm and amends Chapter 28, Article 5, Section 60 of the Compiled Statutes of Nebraska for 1929, relating to cruelty to animals to provide "that nothing herein shall be construed to prevent the State Bureau of Animal Husbandry or for the manufacturing of serum or virus." This bill was intended to expressly authorize the practice of vivisection by our medical schools. The bill was passed by both houses and has been signed by the governor.

House Roll No. 109: This bill provided that only women should care for women inmates of state institutions. The bill was indefinitely postponed.

House Roll No. 279: This bill attempted to change the date on which the term of a member of the Board of Examiners should begin. It was indefinitely postponed.

House Roll No. 280: This was a bill providing that in counties having no county physician or in counties where the county physician needed additional help, that the physician called upon by the county board to render services to the poor of the county, should receive only 50% of the prevailing charge for such services. In other words it was intended to cut in two the fee to which a physician was entitled. It attempted to secure for the county, services of physicians at half price. This bill was indefinitely postponed.

House Roll No. 314: This is a bill which originally provided that the superintendent of state institutions must have been residents of the State of Nebraska for at least two years next preceding their appointment. This bill died in the hands of the Senate Committee.

House Roll No. 407: This was a bill which provided that various county boards could send indigent patients to the University of Nebraska Medical Hospital at Omaha upon payment of the cost of the care given such patients. The University of Nebraska Hospital objected to this bill on the ground that it took from the hospital the right which it previously had to select the type of cases which should be sent. It was feared that the bill, if enacted into law, would result in a great many indigent patients being sent to the University Hospital who would be of little or no value to the school as cases for study and observation. The bill was killed in the committee.

House Roll No. 411: This bill sought to change the State Board of Examiners in Basic Sciences from five members to three members. The bill provided that one member of said board should be a person actively engaged in the practice of osteopathy and the remaining two members actively engaged in practice of medicine and surgery. This appeared objectionable in the first place because an osteopath would thus become a member of the board and further that it would change the board from an impartial body of experts into a possibly biased or prejudiced board of practitioners. The bill was indefinitely postponed.

To the Honorable House of Delegates, I wish to call attention to the generous and ever-present support of our president, Dr. Hohlen, and the chairman of our campaign committee in all legislative work indicated during the recent session of the Legislature. They never failed us and were never tardy in answering a call. I also wish to express my heart-felt appreciation of the splendid cooperation of the members of the Public Policies and Legislation Committee, namely, Drs. Duncan, Fouts, Rowe, Buchanan and your secretary, Dr. Adams, Ex-officio. I further wish to make of record the alert professional acumen with which our legal advisors and representatives Perry, Van Pelt and Marti watched legislation and most earnestly cared for and forwarded our interests. I believe this report gives to your body a story of successful work in a session of the Legislature and I do not hesitate to say that I submit it with a degree of satisfaction, realizing fully that it could only have been submitted by having had the splendid assistance of those mentioned as well as of our educational institutions and the Department of Animal Husbandry.

Respectfully submitted,
B. F. Bailey.

ROLL CALL—HOUSE OF DELEGATES

Adams—Geo. Pinney	p	p	p
E. B. Hamel			
Boone—F. M. Barnes	p	p	a
Box Butte			
Buffalo—L. T. Sidwell	a	a	a
G. W. Bentz			
Burt—R. E. Hall	a	a	a
W. C. Keetell			
Butler—J. H. Downing	p	p	p
C. E. Beede			
Cass—M. U. Thomas	a	a	a
O. E. Liston			
Cedar-Dakota-Dixon-Thurston-Wayne—C. L. Phillips	a	p	p
C. B. Coe			
Chase-Dundy-Hayes-Hitchcock			
Cheyenne-Kimball—A. P. Sucgang	a	a	a
A. L. Miller	p	p	p
Clay—H. H. Seeley	a	a	a
W. C. Kenner			
Colfax—P. H. McGowan	a	a	a
W. J. Kavan			
Cuming—H. W. Francis	p	p	p
C. A. Pierson	p	p	p
Custer—Frank A. Burnham	a	a	a
L. W. Forney			
Dawson—A. E. Reeves	a	a	a
Wm. J. Birkofer			
Dodge—R. A. Davies	a	a	a
Fillmore—J. Bixby	p	p	p
E. J. O'Brien			
Franklin—Hal C. Smith	p	a	p
W. L. Devers			
Furnas—R. D. Green	a	a	a
Ward Miller	p	a	a
Gage—F. W. Buckley	p	a	p
J. L. McGirr			
Hall—Earle G. Johnson	p	p	p
J. E. Gelow			
Hamilton—J. M. Woodard	p	a	a

Harlan—J. N. Campbell	p	p	p
W. C. Bartlett			
Holt and Northwest—F. S. Wilson	a	a	a
J. P. Brown			
Howard—A. Holm	a	a	a
E. C. Hanisch			
Jefferson—G. W. Ainley	a	a	a
J. H. Lynch			
Johnson—C. D. Barnes	a	a	p
A. P. Fitzsimmons			
Lancaster—B. F. Williams	a	a	a
J. E. M. Thomson	p	p	a
Geo. W. Covey	p	a	p
J. J. Hompes			
Harry E. Flansburg	p	p	p
A. D. Munger			
Knox—P. B. Lonergan	a	a	a
A. J. Schwedhelm			
Lincoln	a	a	a
Madison-Stanton-Antelope-Pierce—			
G. E. Charlton	p	p	p
G. M. Hansen			
R. A. Frary	p	p	p
H. S. Tennant			
E. E. Curtis	a	a	a
E. E. McClelland, Jr.			
John H. Calvert	a	p	p
A. E. Mailliard			
Merrick	a	a	a
Nance—Homer Davis	p	p	p
H. E. King			
Nemaha—B. F. Lorance	a	a	a
I. W. Ivin			
Northwest Nebraska—B. F. Richards	p	a	a
Omaha-Douglas—Charles Moon	p	a	p
James W. Martin			
Louis Bushman	p	p	p
L. E. Hanisch			
W. B. Moody	p	a	p
J. H. Murphy			
Glenn Miller	p	p	p
L. A. DeLanney			
Roy W. Fouts	p	p	p
John J. Freyman			
Ernest Kelley	p	a	p
Herman F. Johnson			
E. A. Connolly	p	p	a
E. E. McMahon			
Otoe—J. P. Gilligan	a	a	a
C. P. Crudup			
Pawnee—W. R. Boyer	p	a	a
Phelps—K. P. Palmer	a	a	a
Guy Clark			
Platte—E. E. Koebbe	p	p	a
F. H. Morrow			
Polk	a	a	a
Red Willow—W. D. MacKechnie	p	a	a
G. A. DeMay			
Richardson—G. W. Egermayer	p	p	p
Wm. Shepherd			
Saline—R. K. Johnson	a	a	a
E. P. Pfeiffer			
Saunders—F. W. McCaw	p	p	p
Scottsbluff—F. B. Young	p	p	p
A. L. Cooper			
Seward—C. W. Doty	a	a	a
H. B. Cummins			
Thayer—R. F. Decker	p	p	p
W. I. McFarland			
Valley	a	a	a
Washington—W. E. Wright	p	a	p
Webster—E. V. Lewis	a	a	a
J. W. Stockman			
York—D. D. King	p	p	p

COUNCILORS

A. P. Overgaard	p	p	p
H. J. Lehnhoff	a	a	a
W. R. Boyer	p	p	a
A. E. Cook	p	p	a
Morris Nielsen	p	p	p
Frank Tornholm	p	p	p
H. E. Potter	p	p	p
W. J. Douglas	a	a	a
R. D. Bryson	a	a	a
L. W. Rork	p	p	p
C. A. Selby	p	p	a
A. L. Cooper	p	p	p

OFFICERS

President—Lucien Stark	p	p	p
Vice-Presidents—J. M. Willis	a	a	a
F. B. Young	p	a	a
Secretary-Treasurer—R. B. Adams	p	p	p

EX-PRESIDENTS

M. L. Hildreth	a	a	a
J. E. Summers	a	a	a
W. O. Bridges	a	a	a
A. R. Mitchell	a	a	a
F. A. Long	p	p	p
L. M. Shaw	a	a	a
P. H. Salter	a	p	p
J. P. Lord	a	a	a
I. N. Pickett	a	a	a
J. P. Gilligan	a	a	a
E. W. Rowe	a	a	a
W. F. Milroy	a	a	a
C. L. Mullins	a	a	a
H. W. Orr	a	a	a
M. S. Moore	a	a	a
B. B. Davis	p	a	a
B. F. Bailey	a	p	p
Morris Nielsen	p	p	p
Palmer Findley	a	a	p
H. J. Lehnhoff	a	a	a
H. E. Potter	p	a	a
B. R. McGrath	a	a	p
F. S. Owen	a	a	a
K. S. J. Hohlen	p	p	p

REPORT OF PUBLIC ACTIVITIES COMMITTEE

May, 1931

The public demand for information on matters pertaining to health is increasing. The demand for service from the Public Activities Committee has reached a point where a central office with ample organization should be set up to fulfill our obligations to both the public and the profession.

From five years experience on this Committee I can definitely state that the public prefers to receive health information from the authoritative source of organized medicine, rather than from any other. I can also definitely say that if we fail to gratify the increasing demands of the public it will accept the teachings of other organizations, and soon we will be shaken from the position of leadership.

We cannot stand still and allow lay groups and cult organizations to pass us by in this health education work and hope to retain a respected position in the minds of the public. We cannot stand still and hope to ward off the enchroachment of industrial medicine, insurance medicine, social medicine, Veteran's Bureau medicine, and state medicine. All of these are serious threats upon the horizon of our field of practice, and we must either go forward with a militant attitude or drop out of leadership. A battle cannot be won on the line of defense, and we must supply the extra demands by extra effort or lose out to those who will.

This committee has learned that it cannot depend upon the society membership for the carrying on of a definite program. Individuals are willing and glad to fill definite assignments, but all arrangement and detail work pertaining to the project must be worked out by the committee.

During 1930 the Committee carried out the following activities:

A Public Health Demonstration was put on at the Hastings County Fair for three days in August, at which 230 persons were given periodic health examinations. This project required the services of 43 physicians who donated their time and effort. Of the 230 persons who were examined, 202 were found to be defective and these were referred to 28 practicing physicians.

At the Nebraska State Fair an extensive health program was put on, including exhibits from 15 groups outside the profession, motion pictures, health charts, lectures, first aid demonstrations, and 760 persons were given periodic health examinations. 130 physicians, members of the State Association, helped in this project. There were 619 people found to be defective and these were referred to 243 doctors for treatment.

A Public Health Week project was carried to the people of Lincoln during our annual meeting. Thirty-five lay groups were addressed by speakers from the Association All scientific papers presented at the meeting were abstracted and rewritten for the lay press in order to obtain proper publicity for our annual meeting

The task of supervising the May Day programs of the State of Nebraska was undertaken and outlines and instructions were furnished to over one hundred schools.

Speakers for six programs under the auspices of the Tuberculosis Association were furnished, and the Tuberculosis Seal Sale was carried on in one county by the Committee.

Eight County Medical Societies and two Councilor Districts were addressed on Public Activity problems. Ten addresses were given to lay groups on health matters and two radio talks were given.

The Womans Auxiliary was confered with on several matters and material furnished for their exhibits. Outlines of health programs were furnished various Woman's Clubs throughout the State. Material was supplied and instruction given for two County Vaccination and T. A. T. Campaigns.

Eight States within the Union were furnished the Nebraska Public Activities Program.

There have been numerous conferences with lay groups and committee meetings pertaining to the State medical business.

Should it be your desire for the Public Activities Committee to continue along its present lines of endeavor and meet the constantly increasing demands, it will be necessary for you to set up an organization with ample assistance and finance, probably through the office of a full time Executive Secretary.

PUBLIC ACTIVITIES COMMITTEE
Signed Dr. E. R. Hays, Chairman.

REPORT OF DELEGATES TO A. M. A.

To the Honorable House of Delegates:

The House of Delegates of the American Medical Association convened at the 81st annual session of the Association at the Hotel Statler in Detroit, Michigan, at 10 a. m., June 23, 1930, and was called to order by the speaker, Dr. F. C. Warnshuis. The Committee on Credentials reported 92 members with proper credentials registered. Before the close of the sessions there were registered 160 members.

On motion and second the minutes of the Portland session were adopted as printed.

The vice-speaker, Dr. Albert E. Bulson of Indiana, was called to the chair while the speaker read his address. He extended welcome on the part of the Michigan State Medical Society and an invitation to a complimentary dinner to be held at 7 o'clock that night at the Detroit Yacht Club.

The speaker reminded the delegates of the usual methods of procedure during the meeting of the House and suggested that the Reference Committee in submitting their reports avoid blanket, evasive or indefinite recommendations as far as possible, this being a suggestion that might be well followed by many other organizations.

The speaker called attention to the "tremendous responsibility" placed on the medical profession and the Association and advised that the deliberations and discussions should not be broadcast and made public too early lest erroneous opinions and conclusions might be formed, and that this might be avoided, recommended that an executive session be held at 2 p. m. on Tuesday of each annual meeting and that this executive session "concern itself with such reports or propositions as may be referred to it by the trustees, councils, standing and special committees, state organizations, delegates or departments of the U. S. government."

This recommendation of the speaker was referred to the Reference Committee on reports of officers and by them reported favorably, said report being adopted by the House.

The speaker's suggestion, with the recommendation that a reading clerk be appointed, was reported on favorably by the Reference Committee and afterwards adopted, it being understood, however, that any paper may be read by the writer if he so desires.

The speaker then presented the president, Dr. M. L. Harris of Chicago, who delivered his address.

In his address he called special attention to the importance to us of the "formation of the public medical service association of England which aims at establishing a universal medical service by the government available to the entire population. The present national health insurance act of England applies only to what is called the working class and a section of the middle class earning small salaries but being regarded as unable to pay for necessary medical service". This service is now to be made available to all, irrespective of ability to pay—a direct attempt to extend socialism and bring about a socialization of the medical profession.

A bill to this effect has already been introduced in the House of Commons of Great Britain and counteracting this attempt of the government to socialism, the British medical profession has come forward with a proposal to furnish adequate medical service to all the people.

A similar situation has already arisen in Belgium and physicians there are complaining of the inability to obtain a sufficient number of patients who pay, to earn a living for themselves and families. In Prussia an occupational tax has brought consternation to the medical profession. "The present state of these events which are at present taking place before our eyes again impels me to call attention to the economic situation as it exists in this country". He states, "Medicine is being beseiged by forces on every side that are constantly growing stronger and stronger and unless some defensive effort is made to break this seige," Dr. Harris says, "the profession must eventually capitulate and become employees of the state". He respectfully suggests, therefore, "that the House give thoughtful consideration to the plan he suggested last year of having the county medical societies incorporate and organize for business purposes and to establish medical centers, owned, controlled and managed by the profession, where all classes of persons unable to pay regular fees for medical care and treatment can receive the highest type of medical treatment at prices within their means."

President Harris said, "It is unwise to put this matter off from year to year while the seige of medicine is drawing its lines tighter and tighter".

The president also referred to the work of the National Committee on the Cost of Medical Care, remarked that the committee felt it had not had full support of the medical profession and called attention to the fact that the committee now agreed that there must be preserved, first, the personal relation between physician and patient; second, the concept of medical service of the community should include a systematic and intensive use of preventive measures in private practice, and effective support of preventive measures in public health work and, third, that the medical service of a community should include the necessary facilities for adequate diagnosis and treatment. He urged the members to interest their own localities in support of the work of the committee on the costs of medical care and recommended that the House of Delegates authorize and request the Board of Trustees to establish a bureau on medical economics.

The Reference Committee reported the recommendation in regard to a Bureau of Economics favorably and it was adopted by the House.

The president-elect, Wm. Gerry Morgan of Washington then delivered his address to the House of Delegates. He recommended the consideration of the advisability of holding a midyear meeting of the House of Delegates in the headquarters of the Association in Chicago, saying, "It appears to me that such a session of the House of Delegates held at headquarters during which time there will be only the business of the House to hold the attention of the delegates would be productive of great benefit to the Association." He reiterated the conviction as expressed before the congress of medical education, medical licensure and hospitals that, the care of the sick, so too all charitable work, should be paid for by direct taxation rather than by penalizing a small proportion of the community as is done under the community chest or under private solicitation for funds", and especially expressed his feeling that the service of the physician or surgeon in hospitals, if free, are the physician's individual direct contribution to the person receiving them and as such they cannot be regarded as part of that which the hospital sells or gives away, according to its own corporate judgement.

He also said, "No hospital instituted and supported by public philanthropy or community cooperation of any kind, should be permitted to increase its revenues and so reduce its financial burden on the public, by any system of collecting fees for medical attendance, and thus engaging in the corporate practice of medicine."

The report of the secretary showed that there were approximately 154,830 physicians in the U. S. In 1929 there were 98,307 members of state associations and in 1930, 99,181 members of state associations, and 62,988 Fellows of the A. M. A.

Secretary West emphasized increasing necessity for "Compact and efficient organization of the medical profession." He called attention to the fact that "Potboiling writers" use the columns of sensational magazines to slur medicine, its practitioners, and distort truth and facts." He also called attention to the fact that the radio is being used by charlatans and faddists to ridicule the profession, belittle science and slander physicians. He said, "Industry is to no small extent advocating the application of mass production methods and strictly commercial rules in the practice of medicine, even in the face of the fact that the revolutionary process they have instigated and developed in business have glutted markets, mortgaged the buying power of the people and made necessary the adoption of artificialities in commerce that are directly opposed to established economic principles."

He also said, "Governmental policies already adopted or under consideration are designed—purposely or not—to retard the further development of scientific medicine and to interfere with its practice in a manner that will best serve the public interest." He urges that "efforts for the information of the public shall be continued and states that compact and efficient organization that will command the undivided loyalty of all reputable physicians must be perfected and maintained." He insists that every member of our various societies must "in its own jurisdiction, strive to become all sufficient for the needs of their members in their relations to medicine, their relations to each other, to the public, to government and to philanthropy." He calls attention to the fact that "The conditions of the times demand that a more militant spirit shall be developed in every unit of our organization to the end that each in its own sphere will become more efficient in its work for advancing the science of medicine, for improving the means or methods of its application, for bettering the public health and for opposing anything and everything that would reduce a useful and honorable profession to the status of a trade or a socialistic group of hirelings without professional ideas, and therefore without initiative or ambition for further scientific advancement and without the spirit of humane service."

Secretary West's report was brief, inspiring, and showed an evident cleancut appreciation of the complexities of life and the needs of the profession.

A brief item from the Trustees' report showed the gross weekly circulation of the Journal to be 99,209, the net paid weekly average 96,220. In 1929, this being that report, showing an increase of 3,000 copies over 1928. Each of the special journals showed an increase in circulation with the exception of the American Journal of Diseases of Children which showed a loss of 193 in its circulation. There was a net loss to the Association from the publication of this group of journals of $26,087. The Archives of Oto-Laryngology and the Archives of Ophthalology produced an income larger than expenditures.

To Hygeia a circulation of 75,000. The work of the Council of Pharmacy and Chemistry has proven invaluable in its aid to the profession and the people and is well worth the money expended upon it, educating the physician and serving the people by its publication, millions each year. The Council on Physical Therapy has begun and is developing its work and in this as in the Council of Pharmacy and Chemistry and Therapeutic Research, the work under the Board of Trustees has not only developed a mental insight but is extremely protective and if the people can come to realize this work fully it will mean added respect and support for the profession and its unselfish, self-financed work.

Just as a brief quotation from the treasurer's report, that you may know something of the tremendous work that has been done by the A. M. A., entirely under the supervision and support of the profession of medicine, the report shows the value of total property and equipment to be $1,061,193, that it holds in U. S. government, railroad, municipal and other bonds as securities, $834,113, in cash over $42,000 and held in bank or on hand over $175,000, certificates of deposit $300,000, accounts receivable $145,000, a few other items making a total of $2,688,504. After deducting all liabilities shows a net worth of $2,392,643 as of December 31, 1929. There is much other of detail that would be interesting but space forbids.

The Judicial Council called attention to the "development of industrial medicine, the activities of corporations in medical fields, the expansion of public health programs, especially those of unofficial agencies, the organizations of so-called "hospital associations" and cooperative diagnostic laboratories, the creation of funds and foundations concerned in some manner with medical practice of public health and the working of compensation laws." The Council announces itself as opposed to cooperative diagnostic laboratories from which the physician members receive from the laboratories compensation varying in amount with the amount of work referred, said activities being unethical and opposed to the interest of scientific medicine.

The Judicial Council state that "It is the opinion of the council, based on present evidences, that such practice is detrimental to the best interests of scientific medicine and the people themselves," but declines in the face of the necessity of broad and complete investigation to make a comprehensive report upon this question at this time. The work of the Council on Medical Education and Hospitals as demonstrated by its reports, has been comprehensive and rational. It recognizes the immature and imperfect hospital organization and medical school curricula at the time of the organization of the council on medical education and hospitals in 1904. It evidenced the very marked improvement in both hospitals and schools, the elimination of most of the unrecognized schools, and the strengthening of the position of the hospitals by superior equipment, laboratory work, and general diagnostic as well as therapeutic advancement. In medical licensure they mention the lessening of the avalanche of foreign physicians who came to the U. S. at the close of the World War. They congratulate us that undergraduate medical students are now being licensed in only rare instances, the caution concerning the licensing of graduates of socalled nondescript colleges. They note the licensing of osteopaths as physicians, and note that they are increasing both by examination and by reciprocity. They state that the number of physicians obtaining certificates of the National Board of Medical Examiners is increasing and more licensing boards are accepting them without further examination. They are encouraged by the results of the basic science examinations and by that are helping to restrict nonmedical practitioners. They state that all but ten medical colleges in the U. S. are parts of and controlled by universities and not operated for profit.

The Council on Medical Education and Hospitals considered seriously the possibility of the adoption of a continuous method of medical instruction whereby a student can complete the four required college years of medical education of 8 or 9 months each in 3 calendar years. The statistics presented by the Council of the average age of students graduating, counting the years internship, would be 26½ or 27½ years. They felt that any method that can reduce this maximum age without failure in efficiency would be a move in the right direction. A resolution was adopted by the House of Delegates that medical schools be encouraged to arrange for periods of pratical experience for students between the 2nd and 3rd years, and between the 3rd and 4th years, this experience to be obtained by providing for the apprenticing of students during summer vacations to practitioners of high standing, preferably in rural communities, thus teaching newly graduated physicians something about contact with the people they must meet. At present, in 1930, all of the 75 medical schools that have been classified, are rated in class A and require college work for admission.

Quoting from a resolution by the chairman of the Board of Trustees—Resolved that the House of Delegates of the A. M. A. condemn as unsound in policy, wasteful and extravagant, unproductive of results and tending to produce communism, the Federal Subsidy System established by the Sheppard-Towner Maternity and Infancy Act and protests against the revival of that system in any form.

The Reference Committee on Legislation and Public Relations approved a resolution introduced by Dr. Wright of Minnesota as follows—Whereas propositions are constantly arising before Congress which seriously affect the interest of public health and the medical profession, and whereas, full information concerning these propositions is not always available, and whereas, our present method of presenting this information should be supported by a group of medical men, well informed on legislative activities, therefore be it resolved that the Board of Trustees appoint annually a committee of five representing various sections of the country, the personnel of said committee to be composed of men who have had experience on state legislative committees, and that said committee is to study these propositions and to cooperate with the Bureau of Legal Medicine and Legislation and make such recommendations as they consider necessary to the House of Delegates and in the interim to the Board of Trustees.

Under preparation of charges and appeals it was recommended that "It is of utmost importance that any society that finds it necessary to proceed against any member or any group of members shall see to it that charges referred are specific, that rules of evidence are duly observed, and that legal methods of procedure are carefully followed".

The Committee on Standards of Physical Fitness found that "Motor vehicle fatalities in the U. S. in 1929 numbered 31,000 or 93.8% of the total number of traffic fatalities, an increase of 10.8% over 1928 and of 147% over 1920.

Quoting part of the resolution adopted that the House of Delegates "consider the advisability of amending the present standards of physical fitness of automotive operators, adopted by this Association, by the addition of standards of mental and moral fitness to be recommended for adoption by the several states as a condition for issuing licenses to operate motor vehicles.

The Committee on Military Affairs and National Defense said in its report—"One of the purposes of our committee will be eventually to bring to the attention of the medical profession of this country in the most impressive and persuasive way possible a true picture of the state of affairs existing in 1916, together with recommendations which the committee hopes if carried out will help to prevent a repetition of the confusion, uncertainty and lost motion of those days".

It was resolved that the Board of Trustees be requested to initiate as speedily as practicable a movement to enlist every state, medical association and county medical society and every member of the medical profession in a movement to carry into effect the policies of the A. M. A. with the respect to cooperate between federal and state governments in public health activities.

A resolution was adopted urging the Federal Radio Commission to observe extreme care in the character and qualifications of persons or corporations desiring to broadcast programs and authorized the revocation of licenses that are against public interest.

The report of the Reference Committee on Reports of the Board of Trustees and Secretary of which Dr. Roy Fouts is a member, expressed itself as believing that "It would be a decided aid to organized medicine if the members of the House of Delegates would avail themselves of the opportunity of attending the annual conference of the State Secretaries".

A resolution was adopted protesting against those portions of the Prohibition and Narcotic Laws which deprive the citizen of the right to privacy regarding his diseases and ailments.

A report was presented by the Section of Nervous and Mental Diseases resolving (1) that there be available to every criminal in Juvenile court a psychiatric service to assist the court in the disposition of offenders, (a) that no criminal be sentenced for any felony in any case in which the Judge has any discretion as to the sentence until there be filed as part of the record a psychiatric report, (3) that there be a psychiatric service available to every penal and correctional institution, (4) that there be a psychiatric report on every person convicted of a felony before he is released."

The following resolution which we consider of great basic importance was referred by the chairman of the Trustees to the Reference Committee on Legislation and Public Relations. It was approved by them, adopted, and upon motion it was directed that these resolutions be transmitted by wire to the President of the U. S. I am advised, however, that this provision for the care of those who were enlisted in the War has now passed Congress and is in force.

Resolved—that, in the opinion of the House of Delegates of the American Medical Association, legislation to extend in point of time the presumption of service origin of diseases and injuries from which veterans are suffering, to establish arbitrarily the service origin of such diseases and injuries, and to extend greatly the catagory of such diseases, is without sound basis in the science and art of medicine:

Resolved—that the provisions of such legislation to the effect that lay evidence as to the nature and extent of diseases and injuries is to be given added consideration will give to such evidence weight to which it is in no way entitled and cause pressure on the Veterans Bureau to allow claims for compensation without adequate medical support:

Resolved—that legislation recently enacted providing for the enlargement of the hospital facilities at the command of the Veterans Bureau for the care of veterans, rich and poor, who desire hospitalization and treatment for diseases and injuries that admittedly have no relation whatever to military service, is unsound and communistic in character, and the pending proposal to allow such veterans as are of financially limited means bonuses and money to add to their own comforts while they are in the hospital and to help support their families during that period and for limited periods thereafter, is calculated to induce patients to seek hospital care through the Veterans Bureau when such patients should be better and more economically treated as ambulant patients or treated in their own homes;

Resolved—that the duty of providing medical and hospital care and financial relief for indigent citizens of any state, when disabled by diseases and injuries that did not originate in the line of military duty, is a function not of the federal government, but of the governments of the several states and should be discharged through state agencies, including permanently established state, county, municipal and private hospitals, and

Resolved—further, that a copy of these resolutions be sent to the President of the United States.

It has seemed to me that one of the duties of the delegates of the various state societies to the House of Delegates of the A. M. A. should be to bring back to their various societies at least a resume' of the activities of the House of Delegates. It is a body which more than any other is supposed to transact the business for the medical profession of the country and to be a guardian of its interests, its possibilities and its ideals. I have been most interested in the splendid alertness and ability to expedite business of the presiding officer. I have sometimes marvelled at the tremendous amount of business which has passed through the hopper of this organization, but I have sometimes wondered if the actions of this organization could possibly be as judicial as it may be desired that they should be in the tremendous amount of work accomplished in the very few hours given to them for action.

I cannot criticize the action of the House of Delegates which I have attended. I do believe that most of its work will certainly give evidence of being judicial in type but I also feel that it is possible that longer consideration and further discussion might bring to the front matters of vast importance to our body politic.

In the address of President-elect Wm. Morgan he says, "In the caring for the sick all charitable work should be paid for by direct taxation". The theory is all right but after all we would not have taken from the medical profession the humane instinct which has been so developed for centuries as of the physician toward the suffering, than no greater honor could be paid even to the Christ than to call Him the Great Physician.

While justice should be done to us in a financial way and we should not be burdened with all the charities of the world, nevertheless where the economic side under taxation fails, we should not be found wanting.

It is indeed true that in these complex times when every line of work is providing for its own development and its own relation to other lines of work, the medical profession should be thoroughly awake to its own interests. For instance, the high cost of medical and hospital care is perhaps today one of the greatest questions under discussion by the public and by the profession. The public is attempting to solve this for us. If it is solved for us we are the dictated to, not the founders and sponsors. I believe the mind of the medical profession is broad enough, has enough economic vision, is ingenious enough to provide for the demands of the public without sacrificing its own dignity, financial prosperity or professional satisfaction.

There are no two professions that come nearer together if we really analyse the situation than the medical and the legal. We have not understood each other. We should have more intimate relation, more conferences between our state and national organizations, and developed to the point where a miscarriage of justice would fall under the same condemnation as a miscarriage in the medical profession. My experience with the legal profession in the last few years indicates that there is a trend in that profession that they meet us at least half-way, to plan for the better administration of justice in those cases which must depend upon both of us for action. The rapid development of trade combinations, of cooperative medical activities, in fact of industrial and state medicine, is such as to demand our attention and challenge our ability and mental acumen. The powers that are dangerously undermining the individual rights and opportunities of the members of the profession are working 365 days in the year. The great organization which has the power, the ability and the possibility of directing and protecting our interests meets but once a year and I cannot but recommend that there at least be a midyear meeting of the House of Delegates of the A. M. A. that shall give at least three days to the careful discussion, consideration and development of plans of protection that shall be based upon our duty to care for the health welfare of the people. Accomplishing this, our duty to the world, we can but be sustained and respected by the people whom we serve and by all of the professions. My heart is in this. I believe it is possible. I most earnestly urge the close organization, the militant activity, and the judicial course of our profession that the future may be even more splendid in its results and its satisfaction to the world than has the past.

Respectfully submitted,
Benj. F. Bailey.

In Memoriam

"Men die but once, and the opportunity
Of a noble death is not an everyday fortune.
It is a gift which noble spirits pray for."

Charles Lamb

John Phillip Gilligan, Sept. 28, 1930

President of Nebraska State Medical Association, 1914-1915

In Memoriam

He is made one with nature; there is heard
His voice in all her music, from the moan
Of thunder, to the song of night's sweet bird;
He is a presence to be felt and known
In darkness and in light, from herb and stone
Spreading itself where'er that Power may move
Which has withdrawn his being to its own.

◆

Ole Grothan, June 19, 1930
James M. Patton, June 20, 1930
Ernest O. Weber, July 10, 1930
A. R. Hornbeck, August 2, 1930
William J. Davies, August 22, 1930
Chas. S. Curry, Sept. 29, 1930
D. R. Rogers, Oct. 7, 1930
David A. Rundstrum, Oct. 20, 1930
Andrew B. Somers, Oct. 23, 1930
Fritz Rosenbladt, Nov. 8, 1930
Frank Salter Nicholson, Dec. 10, 1930
Frank N. Townley, Dec. 24, 1930
L. D. Voss, Jan. 28, 1931
Charles D. Hustead, Feb. 21, 1931
Fred Hoffmeister, Feb. 22, 1931
Wesley L. Curtis, March 10, 1931
H. F. Leedom, March 27, 1931
A. L. Kee, March 29, 1931
H. H. Waite, April 25, 1931

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AMERICAN MEDICAL ASSOCIATION AT PHILADELPHIA LAST MONTH

The American Medical Association was organized in Philadelphia in 1847, and its golden anniversary was celebrated there in 1897. After a lapse of over thirty years the Association again held its annual meeting in the city of brotherly love.

The historic shrines of the Revolutionary period have always given Philadelphia an unique place in American history. The city itself is a beautiful one of two million people. Given an historic background, the attractiveness of the city itself, rail facilities and highways, it is not to be wondered at that 6,828 physicians journeyed there for the annual meeting of the American Medical Association.

All the sectional meetings and the exhibits were housed in the new Convention Hall just completed at a cost of $5,000,000. The scientific exhibit was probably the most remarkable that has ever been seen in any country. Outstanding among the exhibits were living cancer cells removed from patient eight months ago and continuing to grow in a suitable medium. Bone removed months ago is still living in suitable medium. A cure for Addison's disease is assured by the hormone from the cortex of the suprarenal gland. The remedy has not yet reached the marketable stage as the expense for furnishing the remedy for one case for one year would approximate $3,000. Much research work was reported and a number of important discoveries are about ready for announcement.

The House of Delegates appears to have literally taken the "bull by the horns" and it is believed that the medical profession is today more determined than ever that it shall take care of the business of their own profession and not let it be done by outside parties. The policy of the federal government of rendering medical and hospital benefits to veterans of the World War with non-service connected disabilities was bitterly attacked by the House of Delegates and strong representations were made to the Congress and the American Legion to abandon the policy and substitute therefor a plan of disability insurance benefits.

President E. Starr Judd urged that the mystery be taken out of medicine, that the profession talk to patients in understandable terms.

Dr. Edward H. Cary, Dallas, Texas, ophthalmologist, was elected President-elect and New Orleans was chosen as the next place of meeting.

BIBLIOGRAPHIES AND SPACE

That bibliographies are a valuable part of reports of research work need not be discussed—it is freely admitted. Medical editors and publishers have been brought face to face with the problem of space required to publish bibliographies, especially when the references are numerous. To give a specific instance: Very recently we saw an article in an exchange with a bibliography of five and one half pages in 7 point, appended. It will be admitted that giving so much space to a bibliography is an injustice to the average reader who is willing to take the facts stated in the body of the article for granted and cares nothing for the bibliography. Several years ago the *Journal of the A. M. A.*, declared against voluminous bibliographies and has cut them down to a minimum. The position is taken that if the author desires all the references he may have them appended in the reprints. Space in the *Nebraska State Medical Journal* is not so plentiful that we can afford to publish pages of references to articles. It shall be our policy hereafter to cut references to a possible half dozen or dozen and authors will kindly govern themselves accordingly.

Read the ads and patronize the advertisers whose patronage makes this *Journal* possible.

OFFICERS ELECTED AT ANNUAL MEETING

The full list of officers elected at the annual meeting in May is as follows:

President-elect, Dr. Arthur E. Cook, Randolph.

Vice Presidents, Dr. A. L. Miller, Kimball; Dr. A. J. Cameron, Herman.

Councilors: Fifth District, Dr. Homer Davis, Genoa; Sixth District, Dr. D. D. King, York; Seventh District, Dr. H. E. Potter, Fairbury; Eighth District, Dr. W. J. Douglas, Atkinson.

Delegate A. M. A., B. F. Bailey, Lincoln.

Committee on Journal and Publication, Dr. A. F. Tyler, Omaha.

Delegate, Council On Medical Education, J. Stanley Welch, Lincoln.

Chairman, Campaign Committee, Dr. K. S. J. Hohlen, Lincoln.

Chairman Public Activities Committee, Dr. E. R. Hays, Falls City.

Member, Student Loan Fund Committee, Dr. F. A. Long, Madison.

BETTER OBSTETRICS

Dr. John Osborne Polak of Brooklyn, in speaking before the White House Conference on Child Welfare and Protection, made the assertion that while obstetrics is practiced in some of our urban districts as well as in any part of the world it remains a fact that our women are not receiving the best of care as evidenced by the relatively high maternal mortality in the nation as a whole. Polak observes that we are passing through a transitional period from surgical radicalism with its appalling toll in life and health to physiologic conservatism with due regard for the hygiene of pregnancy, for careful antepartum study, for laboratory findings, for the physiologic mechanism of labor and the exercise of surgical asepsis at delivery.

Adequate prenatal care and supervision is being carried out successfully in a number of our teaching maternity institutions but the need is great in the rural districts where facilities are wanting. Not until the State, the medical profession and the lay public come to an appreciation of the importance of prenatal supervision can we hope for any considerable improvement in the present-day conditions. In the opinion of Polak, the small rural hospital could well establish a free and pay prenatal clinic for the instruction and guidance of the expectant mother. Mother's classes for antenatal instruction could be held in these rural health centers. By so doing, helpful contacts will be established and women would be educated in the value of preventive obstetrics. Furthermore, the physician would receive added inspiration for better obstetric practice.

The committee on Pre-natal, Maternal and Early Infant Care expressed the opinion that the time has come to establish a nation-wide program with the backing of the Federal Government, the State and County health agencies. This program is in the interest of four distinct groups. First is the clinic group which would be served in the clinic—prenatal, intra-natal, intrapartal and postnatal. Such clinics should be completely organized with a medical, dental, nursing and social service. In most of our large centers of population this clinic group is receiving such attention but it is in the rural and smaller urban districts where the need is manifest.

The second is the Rural Group. Here we have to do with the sparsely settled districts, notably in the southwest and also with the negro population of the South, where the lying-in woman is not receiving adequate care. To provide the necessary care of obstetric cases there must be cooperation between the State Board of Health, the county health commissioner, the county and private hospitals. Where necessary it is recommended that private hospitals be subsidized by the State. Here the trained midwife can find a place in the organized effort to provide the service that such communities demand. Such midwife training and practice should be supervised by the State and supported by the State if need be.

The third group is that of the Middle Class, who are not entitled to the services of free clinics but are equally as deserving of the best possible prenatal, intra natal, intrapartal and postnatal care. The majority of these women will be confined in the home or in the open general hospital. Instruction to the expectant mothers and graduate instruction to the practitioners must be provided and all maternity homes and hospitals should be under State supervision—not State control.

The fourth group is the well-to-do patient who likewise needs education in maternity problems. For this group it is recommended that the obstetric service should be improved by educational propaganda to the public and by providing better education and regulation of the practicing obstetricians. To this end our educational institutions should provide graduate courses and refresher courses should be carried to groups of practitioners in their respective communities. Such courses should be under the direction of the State University or the State Medical Association.

—Palmer Findlay, Omaha.

BRYAN MEMORIAL HOSPITAL SECOND ANNUAL CLINICS

The second annual day of clinics was held at Bryan Memorial Hospital on May 11, 1931. The meeting was attended by the staff and about one hundred invited physician friends of the hospital. The meeting consisted entirely of clinics given by outstanding clinicians. A buffet lunch at noon and banquet at night was served at the hospital.

This meeting was very similar to the day of clinics held a year ago in connection with the opening of a new wing of the hospital. All who have attended these clinics feel very strongly the teaching value of this type of a meeting.

The clinicians and their subjects are as follows:

Dr. Harry E. Mock, B. Sc., M. D., Chicago, Ill., Associate Professor of Surgery, Northwestern University. Subject—"Skull Fractures and Cerebral Injuries."

Dr. John L. Myers, B. A., M. D., Kansas City, Mo., Assistant Professor of Rhinology and Otolaryngology, Unversity of Kansas. Subject—"Relation of the General Practitioner to the Eye, Ear, Nose and Throat Specialist."

Dr. Fred R. Adair, B. Sc., M. A., M. D., Chicago, Illinois, Chief of Clinics of Obstetrics and Gynocology, University of Chicago. Subject—"Abdominal Examination of the Pregnant Woman and its Relationship to the Diagnosis of Position and Prognosis."

Dr. Paul B. Magnuson, M. D., Chicago, Illinois, Assistant Professor of Surgery, Northwestern University. Subject—"Simple Things Which Make the Difference Between Success and Failure in Fractures."

Dr. Moses Barron, B. S., M. D., Minneapolis, Minnesota, Associate Professor of Internal Medicine, University of Minnesota. Subject—"Nephritis."

—F. L. Rogers, Lincoln.

NOGUCHI MEDAL AWARDED TO DR. OLGA STASTNY

The second award of the Noguchi Medal founded by the Alpha Chi Chapter of Phi Delta Epsilon, Creighton University College of Medicine, was made at the banquet of the annual meeting of the Nebraska State Medical Association, May 14, the recipient being Dr. Olga Stastny, Omaha physician, noted for her many activities in this country and in Europe.

In awarding the medal, Dr. H. v. W. Schulte, dean, Creighton University College of Medicine said in part: "Especially delightful is this occasion in the person and record of the medalist. A woman of Nebraska has by her achievements in public health taken her place high among the notable women of America, being this year President of the Medical Women's National Association and for the second time is delegate to the International Women's Medical Convention. Through her Nebraska has been able to acknowledge to Czecho-Slovakia something of the debt of gratitude to their land of origin of many sturdy Nebraskans, who have played important roles in the development of our state and constitute a stable and progressive element of our population. Her service with the Red Cross in France, of such distinction as to earn the *Medaille de Reconnaisance* was but preliminary to greater and wider service in Czecho-Slovakia, where occupying the Chair of Hygiene and Medical Social Service in Prague she assisted the American Relief Association in its survey of hospitals and the organization of a Child Welfare Station, and aided the American Red Cross in the establishment of a Nurses Training School in that City. Later she became director of health of the Y. M. C. A. in Czecho-Slovakia conducting health education in the public schools, the army and the population at large, establishing 33 local health committees, receiving a citation from the government, and from the soldiers the appelation of "Mother of the Czech Army".

After the disaster at Smyrna she served for a time as medical director of the Near East Relief station at Loutrakie where some 3,700 orphan refugees were cared for. She established the quarantine station of the American Woman's Hospital at Macronissi receiving fugitives from Armenia and Turkey among whom typhus, smallpox and dysentery were rife, providing for their care with such success that out of 12,010, 11,204 were saved alive. For this she was decorated by Greece with the Cross of St. George.

Much might be said of her home activities among us, personal and official in the cause of public health, of her character and personality which enhance the high merit of noble actions, and more again, were this the time of 'that best portion of a good physician's life, the little daily unremembered acts of kindness and of love'.

Dr. Olga Stastny: Phi Delta Epsilon is conscious that you grace this medal by your acceptance and honors you for the realization in your life of the ideals to which its members aspire."

To which Doctor Stastny responded:

Mr. President, Mr. Toastmaster, Dr. Schulte, members of the Alpha Chi chapter of the Phi Delta Epsilon, my good colleagues and friends: When your committee announced to me that I was to have this honor conferred upon me, I was indeed surprised, and deeply touched and do most sincerely appreciate your belief that I may in some small way, be worthy of this honor.

It has been my very happy privilege, due in great measure to the medical training received in my own state, to serve in humanitarian, medical and social work. Recognitions bestowed upon me, following my earnest efforts to serve well, were gratefully received and inspired me to carry on, but none has been more deeply appreciated than this great honor awarded me by you, my own home state colleagues.

When one reaches points in lifes' journey such as this, one is ever mindful that they are possible only because of the love and help of others and so I wish to thank my dear parents, who early instilled in me humanitarian ideals, and the knowledge that in service there is happiness; my good husband, who encouraged me in my belief that women can serve; my teachers, many here tonight, who pointed the way during my medical training and to my many colleagues and friends, who by their friendship and trust, have encouraged me to carry on. To all these I owe this honor.

I am well aware that in accepting this, I am taking on a responsibility, Dr. Hays, the recipient of last year, and I, well know, what these responsibilities are and I know, that he, like I, hopes to fulfill his duty in any line of preventive medicine that our state or community may call upon us to fulfill.

I assure you, that we hope to live up to your faith in us, and not let such recognition turn our heads. On that lonely island, where fate thrust into my hands, the reins that gave me control and an almost absolute dictatorship, over thousands of unfortunate refugees, my word was practically law.

But if ever there came a time, when because of this my hat might have become too tight, I knew that I would soon be brought to mother earth by some of my big family of brothers, saying, "Hold on sis, how do you get that way." And if they failed in this duty, I am sure that the classmates of my medical days would do their share in keeping my head level. These are some of the good things that come of being one of many, either in the home, in school or in public life.

In honoring me on this occasion, you are reminding the world of the great work of the noble scientist, Dr. Nugochi, in whose memory this medal is given. We all honor this son of a Japanese peasant who by his persistent and conscientious research, discovered so much that made it possible for us to apply the results of his studies and help to do our share in preventing any controlling disease.

Much of the work that I was connected with abroad, was made possible by the work of the man we honor today. When I was told that I was to receive this medal, memory carried me back to many scenes abroad and gave me a better understanding of his contribution to these things, and I realized how, too often we take for granted the work done by our medical men and women, and brought to my mind, how many had passed on either just on the brink of success, or at a time when they could not realize what they had given to the world.

I pictured Dr. Elsie Ingles of the Scotish Woman's Hospitals, after three years of service in Serbia, helping fight typhus, returning to her beloved England, and dying on the ship two hours before it reached port; I thought of Nugochi, prepared to sail on the 19th of May, 1928, for America, from Africa, where he was studying yellow fever, collapsing with the disease on the 17th, in his delirium still studying yellow fever, and passing away on the 21st, almost like our Michaelson in California just on the eve of success.

And I realize that my ability to carry on over there, was due to such men as he.

I saw again, camp after camp, of military men, where I would talk to them in our educational campaign against venereal diseases, I saw passing before me hundreds of little children with trachoma infected eyes, on their way to our little dispensary for treatment, and also our crowded tent hospitals filled with fever racked and delirious typhus patients. And to the knowing of the truths of the causes of these things, we are indebted to our scientists and we owe it to our profession to add our contribution to prevention and control of disease.

We heard yesterday in one of our meetings, that the word doctor, means teacher—it does. To the truly professional man or woman, a doctor is a teacher, humanitarian, healer and friend, and when he is such, he can bring to himself, through such service, the greatest joy that can come to any human being.

I shall treasure this token of your appreciation and I shall continue to try to live and practice according to the highest dictates of the profession of which I am so proud to be a member.

THE NEWLY ELECTED PRESIDENT OF THE AMERICAN MEDICAL ASSOCIATION

Edward Henry Cary, of Dallas, Texas, chosen president-elect of the American Medical Association, was born in Union Springs, Alabama, in 1873 and graduated in 1898 from the Bellevue Hospital Medical College, New York. Since 1929, Dr. Cary has been dean-emeritus of Baylor University College of Medicine, Dallas, where he formerly was head of the department of ophthalmology and otolaryngology. He has also been president of the Southern Medical Association, the Texas State Medical Society and the Texas Ophthalmological and Oto-Laryngological Society.

—A. M. A. Daily Bulletin.

THE EDWIN SMITH SURGICAL PAPYRUS, V.

Compound Comminuted Fracture of the Skull Displaying no Visible External Injury: If thou examinest a man having a smash of his skull, under the skin of his head, while there is nothing at all upon it, thou shouldst palpate his wound. Shouldst thou find that there is a swelling protruding on the outside of that smash, which is in his skull, while his eye is askew because of it, on the side of him having that injury which is in his skull; and he walks shuffling with his sole, on the side of him having that injury which is in his skull thou shouldst account him one whom something entering from outside has smitten, as one who does not release his head, of his shoulder fork, and one who does not fall with his nails in the middle of his palm; while he discharges blood from both his nostrils and from both his ears and he suffers with stiffness of his neck. An ailment not to be treated.

His treatment is sitting until he gains color and he has reached the decisive point. Now as soon as thou findest that smash which is in his skull like those corrugations which form on molten copper and something therein throbbing, and fluttering under thy fingers, like the weak piece of an infant's crown before it knits together—when it has happened there is no throbbing or fluttering under thy fingers, until the brain of skull is rent open—and he discharges blood from both nostrils and both his ears, and he suffers with stiffness of the neck, thou shouldst say concerning him: An ailment not to be treated." (Case VIII.)

Comment: Shuffling with his sole means a shuffling gait. Something from the outside means the breath of a god or death.

PROCTOLOGIC HINT NO. X

The use of the injection of quinine and urea into hemorrhoids is very satisfactory in properly selected cases, but you must not try to cure all anal and rectal lesions with quinine and urea.

Dear Reader:

The Journal and the Cooperative Medical Advertising Bureau of Chicago maintain a Service Department to answer inquiries from you about pharmaceuticals, surgical instruments and other manufactured products, such as soaps, clothing, automobiles, etc., which you may need in your home, office, sanitarium or hospital.

We invite and urge you to use this Service.

It is absolutely free to you.

The Cooperative Bureau is equipped with catalogs and price lists of manufacturers, and can supply you information by return mail.

Perhaps you want a certain kind of instrument which is not advertised in the Journal, and do not know where to secure it; or do not know where to obtain some automobile supplies you need. This Service Bureau will give you the information.

Whenever possible, the goods will be advertised in our pages; but if they are not, we urge you to ask the Journal about them, or write direct to the Cooperative Medical Advertising Bureau, 535 N Dearborn St., Chicago, Illinois.

We want the Journal to serve you.

EDITORIAL PARAGRAPHS

In the year 1160 A. D. Bagdad is reported to have had sixty hospitals.

The Philippines had a university before the Pilgrims came to America.

Dieticians who tell fat people how to reduce never had a real man's appetite.

The twenty-first clinical congress of the American College of Surgeons will take place October 12-16 at New York City.

The editorial "State Medicine! Bogy Man!" in the June *Journal* should have been credited to Dr. J. Stanley Welch, Lincoln.

Surgeon General M. W. Ireland has been retired after twelve years of service. He was the most popular surgeon general for many years.

It is worthy of note that Dr. Frank B. Young, Gering, had a paleopathological exhibit at the A. M. A. meeting at Philadelphia and that a dis-cerning reporter caught his picture for one of the papers.

The daily press reports that eight of the graduates of the Omaha medical colleges this spring are sons of physicians.

The Inter-State Postgraduate Medical Association will meet at Milwaukee, October 19-23, 1931. The usual array of nationally known talent is on the program.

The intense pain of lead colic, gallstone colic and ureteral colic can be relieved by slow injection into the veins of calcium chloride, a salt of the metal which is necessary for bone formation, reports the Massachusetts General Hospital.

Surgeon General Cumming of the United States Public Health Service is quoted as saying that preliminary studies show that drug addict prisoners show a higher average of intelligence than non-addict prisoners.

Iowa has put into effect a new law requiring that all doctors use their proper designations as a suffix on all cards, signs, advertisements, circulars, etc. Thus a medical practitioner must use M. D., and osteopath D. O., a chiropractor D. C., etc.

The registered attendance at our Nebraska annual meeting was 420; the registered attendance at the meeting of the Missouri State Medical Society was 378. Missouri's population is about twice that of Nebraska. The comparison is not odious to Nebraska!

The laying of the cornerstone of the new Douglas County (Omaha) hospital occurred May 7. The Douglas County Medical society and the deans of the two Omaha medical colleges had prominent parts in the ceremonies. The hospital is to cost $650,000 and replaces a county hospital long since become archaic.

The American College of Physicians will hold its Sixteenth Annual Clinical Session at San Francisco with headquarters at the Palace Hotel, April 4-8, 1932. Following the Clinical Session, a large percentage of the attendants will proceed to Los Angeles where a program principally of entertainment will be furnished April 9, 10 and 11.

The Third Pan American Medical Congress will be held in the City of Mexico, July 26th to 31st, 1931. This Congress is being held under the auspices of the Department of Public Health of the Mexican Government. The U. S. State Department has decided that our Government will participate in this Third Pan American Medical Congress and has designated several American physicians as delegates on the part of the United States to this Congress.

Revival of interest in the program of the state association was distinctly noticeable at the recent annual meeting. The attendance at the first session, the full house at the sessions of Tuesday afternoon and all day Wednesday as well as the hundred who were present when the meeting finally adjourned, attest this; but more noticeable to the editor was the discussions of the papers. Roughly it may be said that there were twice as many discussions this year than at any previous meeting.

A commendable custom has sprung up in rural Nebraska among the physicians attending medical society meetings—that of taking the ladies to the meetings. The doctors' wives enjoy meeting one another, they enjoy the dinners and they often enjoy the programs put on by the medical profession. If they have an auxiliary organization as all should have, they have auxiliary meetings. Doctor's wives should be and most of them are, interested in their husband's profession. The social feature of these doctors' and their wives' meetings are very much worth while.

The Canadian Pacific Lines has put into transatlantic service the "Empress of Britain" carrying a medical clinic equipped on metropolitan lines with an operating theatre, a hospital with delivery room, an isolation hospital, a dental department with a surgical room, an ultra-violet ray room, and a Roentgen-ray room, are grouped in units around the large waiting room for patients and the consultation rooms of Dr. Gardner and his staff. Hydro-therapy is provided in a special section of the ship's bath equipment. Dietetics is handled in the main cuisine.

The governor of Illinois on the advice of the attorney general vetoed a bill to compel the instillation of silver nitrate in the eyes of the new born to prevent ophthalmia neoatorum. We had thought that all states required this prophylactic measure. This brings to mind the question of state medicine. We favor a state enactment telling us what we must do under penalty in this case but object to the principle of state medicine. Are we consistent? The writer has no objection to the silver treatment, has always consistently carried it out; but has always felt that it was not needed in 999,999 out of every million cases. The state does practice medicine, by telling you what you must do.

If depression in industries continues for a long period, married women, not the sole support of families must inevitably give way to men. Whether we like this or not, it will be sure to come.

Mary Austin, noted writer and authority on Indians, particularly those of the Southwest, tells what the early Indian mother did when the mother's milk gave out. She made a baby food by boiling corn meal for many hours, then straining it. Then she made hickory nut cream, by crushing the nuts into a paste which yielded the needed fats and combined the two in the needed proportions. The early New England colonists adopted this from the Indians and it is said the recipe can at this day be found in the cook books of New England.

The question of an executive secretary for the Nebraska State Medical Association is being considered by a committee with full power to act. This editor has always favored the proposition of an executive secretary provided the right kind of a person can be gotten. An executive secretary must not be a czar, nor a dub; he must be a well balanced, energetic person with a fertile brain, who can exercise leadership by persuasion rather than by force. Such a person is not easily found. Of the number of executive secretaries in the country—and we know most of them—we know of but two who are actual assets to the organizations they aim to represent. The proposition is one for most serious consideration. The Association is getting along pretty well. Better bear the ills we have than risk others we know not of, or words to that effect.

Twenty-seven Nebraska physicians registered at the Philadelphia meeting of the A. M. A. The names are here given:

Bailey, B. F., Lincoln.
Fouts, R. W., Omaha.
Hays, Edward R., Falls City.
Henske, Jos. A., Omaha.
Lynch, J. Harold, Fairbury
Mitchell, A. R., Lincoln.
Orr, H. Winnett, Lincoln.
Roeder, Clyde A., Omaha.
Rubnitz, A. S., Omaha.
Sage, Earl C., Omaha.
Whitham, Roy H., Lincoln.
Young, Frank B., Gering.
Clarke, Floyd S., Omaha.
McMartin, Charles, Omaha
Greene, J. M., Falls City.
Warner, R. A., Lincoln.
Bantin, C. F., Omaha.
Davis, Edwin, Omaha.
MacQuiddy, E. L., Omaha.
Nilsson, G. N., Bloomfield.
Nilsson, John A., Omaha.
Potts, J. B., Omaha.
Swab, Charles M., Omaha.
Tomlinson, C. C., Omaha.
Wherry, W. P., Omaha.
Stastny, Olga, Omaha.
Taylor, James R., Sidney.

THIS MONTH IN MEDICAL HISTORY

July, 1931

1631—Richard Lower was born in Cornwall in 1649, and became a distinguished practitioner and medical writer. He was one of the pupils of Thomas Willis and assisted him in his dissections. Dr. Willis is indebted to him to some extent for some of his writings on the Brain and Central Nervous System. Dr. Lower succeeded to some of the practice of Dr. Willis and became one of the most prominent physicians in London.

1821—Jefferson Medical College in Philadelphia was founded in 1821. During the year 1831 several important changes in the faculty were made. Dr. Daniel Drake and an associate Dr. Eberle both left the faculty of Jefferson Medical College in 1831 and went west to found the Medical School in Cincinnati. In the same year Dr. John Revere, forty-four years old, and the son of Paul Revere of the Revolution, was called to the faculty to occupy the chair of Chemistry. He remained in Philadelphia ten years and removed to New York for a faculty position in 1841. He was a graduate of the Medical School in Edinburgh.

1831—Dr. Coxe of Philadephia published the ninth edition in 1831 of his improved version of Dr. Duncan's Edinburgh Dispensatory.

1831—Dr. J. K. Mitchell of Philadelphia whose principal writings were published in 1859 by his son Dr. S. Weir Mitchell, made a number of important contributions to medical literature. One of the most interesting was an essay on Acute and Chronic Rheumatism which appeared in Hays' Journal in 1831. In this essay Dr. Mitchell suggested the spinal cord origin of certain painful and swollen joints. This was fifty years ahead of Charcot's observation on Spinal Arthropathies.

1831—Dr. Robley Dunglison, author of the Medical Dictionary and many other important works, is said to have published one hundred and fifty to one hundred and sixty thousand volumes. During the time when he was teaching a large variety of medical subjects at the University of Virginia, about 1831, he produced a two volume human physiology and his dictionary. At this time he was occupying the medical chairs of Anatomy, Physiology, Surgery, Materia Medica, Pharmacy and the History of Medicine.

1731—Dr. Thomas Cadwallader returned to Philadelphia from London where he had been a pupil of the celebrated surgeon William Cheselden. Although only twenty-three years old. Cadwallader began giving anatomical instruction to Dr. William Shippen who was five years older, and others who had not had the advantage of European instruction. In 1731 Dr. Cadwallader was one of the several to introduce inoculation for small-pox and published some writings on the subject. He was at this time only twenty-four years old.

1831—Dr. J. W. Heustis of Alabama reported in the American Journal of the Medical Sciences a case of brachial aneurism cured by compression.

1831—A successful tracheotomy was performed in 1831 by Dr. Horatio Jameson of Baltimore for the removal of a watermelon seed. Several such operations had been done successfully in this country.

1831—One of the early important surgical operations in the Middle West was done at Vincennes, Indiana, where a pioneer surgeon extirpated a tumor of the breast in 1831.

1831—Dr. Benjamin W. Dudley of Lexington, Kentucky, was using the trephine operation for epilepsy in 1831.

1831—The famous lithotomy operation upon Chief Justice Marshall in which more than one thousand small calculi were removed was reported by Philip Syng Physick in 1831.

1831—The American Journal of the Medical Sciences published an article on operation for hare lip by Dr. Zadoc Howe in 1831. Similar articles had been published by Dr. Isaac Cathrall of Philadelphia in 1819 and Dr. J. C. Warren of Boston in 1828.

1831—Dr. J. K. Mitchell of Philadelphia and Dr. David L. Rodgers of New York both published descriptions of new instruments for "excising" and "extirpating" the tonsils in 1831. Similar instruments had already been invented or described in his country by Physick of Philadelphia in 1820 and '28, Stevens of New York in 1827, Matthews of Philadelphia and Hosack of New York in 1828, and by Cox of New York in 1830.

NECROLOGY

George E. Gandy, Humboldt, Nebr.; Ensworth Medical College, St. Joseph, Mo., 1902; practitioner at Humboldt for twenty-seven years and a leading physician in that section; member, Nebraska State Medical Association; son of the late Dr. James L. Gandy a pioneer physician of Nebraska; died following a stroke of apoplexy June 11, 1931, aged fifty-one years. He is survived by a widow.

INSTALLATION OF PRESIDENT STARK

MORRIS NIELSEN, M. D. (Blair): The first order of business for the afternoon is the induction of the new president. There is nothing I know of that has given me as much genuine pleasure as the anticipation of the event to take place. I am particularly pleased to stand between two men of distinction and character and purpose—one, the outgoing president; and the other, the incoming president. Our retiring president, Dr. K. S. J. Hohlen, will induct Dr. Lucien Stark into office.

K. S. J. HOHLEN, M. D., (Lincoln): I am a little bit embarrassed sitting between two celebrities—one the orator of the Nebraska State Medical Association, and the other the orator of the Elkhorn Valley.

I am pleased and honored to be able to introduce Dr. Lucien Stark today. I have known him for a number of years. As I grow to know him better, I grow fonder of him. I take pleasure in introducing Dr. Stark, who will serve you well the coming year.

LUCIEN STARK, M. D., President, Norfolk:

Mr. Chairman, and Fellow Members of the Nebraska Medical Association, I want to thank you very much for conferring an honor of this kind upon just an ordinary individual. Indeed, it is a distinct honor to be designated for one year as head of the greatest body of scientific men in Nebraska. I do not know that I deserve it. I do not know that any of us deserve it. There must be a president of this organization, but none of you will ever know the distinct thrill that came to me when I learned I had been elected to this office.

The question that comes up next is, "What are we going to do?" In looking over what has gone by so far this year, as well as in past years, there is one thing I want to try to do during the coming year. That is, to try to get more younger men interested in organized medicine.

I wonder how many stop to think that it is Organized Medicine that fights your battles for you? Dr. Hohlen, for a number of years, has been one of our most valuable men because of his ability in the prevention of pernicious legislation, and furthering good legislation. Those of you who do not contribute to the welfare of the society, remember, you are drones in the hive. Many physicians do not belong to the State Association, or do not attend the meetings. They are always too busy. Yet some of the busiest men are always here.

As I look around and see the old-timers who have carried the burdens of this Association for years, I wish I might figure out some way that younger men could be encouraged to take a greater interest in the society and be affiliated with it more actively. I should like very much to see that idea take root and grow.

If you run onto something out of the ordinary, why keep it a secret? Give it out. Every member of this society has done some original work. You see something that is at least out of the ordinary. I will cite you two examples I have encountered the past year. I know a man in Nebraska who has had a most marvelous obstetrical experience in one family I know of. I have tried to get him to write up this service. The mother has had five babies. The smallest weighed fifteen pounds, and the largest weighed eighteen pounds. This man—to use a homely example—is like the man who landed at the North Pole with a carload of refrigerators. No one knows it but himself and a few friends that he has told and I have seen many reports of gigantic babies but never one that ever approached this one.

In the past week, I have seen a case of pemphigus in a small town. This is the second one this man has had in the same house and they occurred ten years apart. I cite those as illustrations. All of you have something that would be of value to somebody else.

I see Dr. Milroy in the audience. Suppose he had not described Milroy's disease. I presume we would have gone blundering on, wondering why and how these cases took place and the condition would never have been worked out as a distinct entity but for his own labors in the research and description required. We would be without the benefit of his work because he hid his light under a bushel.

I remember an article by Albert Payson Terhune on the Life of Christ. He said Christ could have lived the holy life that He did and have performed His miracles; but if He had confined Himself to that alone and we had not been told of them the Christian religion would have remained unfounded.

Another thing I should like to encourage during this year is better acquaintanceship with each other. I believe I know as many doctors in Nebraska as anyone and I never meet and talk with one that I do not learn something of value. Get acquainted with this neighbor of yours. You might like the "ignorant bum" if you knew him. Break bread with him and you will find he hasn't horns and hoofs, and that he is a pretty good fellow.

Make a little closer study of your Code of Ethics. Remember that you are the target for the attacks of various groups and kinds of people. We experienced these attacks during the last legislature. Many idiotic bills were proposed and defeated and only by united effort were we able to put up an adequate defense. Get acquainted. Talk these things over. As I told Dr. Nielsen I have an expression that I am going to use at this time: "Among yourselves try and have a little less polite hypocrisy and a little more rough-neck sincerity." The probabilities are we will all get along better.

Attend the sessions. The program will go on as scheduled with but one exception. You will hear a paper not on the program which shows how the physicians of the State of Nebraska will be saved in the aggregate more than $14,000 in one year. Be prompt in your attendance. We shall make two o'clock, two o'clock and eight o'clock, eight o'clock. It is a courteous thing to start on time and we will get through more quickly and there will be less confusion.

I thank you.

ANNUAL MEETING WOMAN'S AUXILIARY NEBRASKA STATE MEDICAL ASSOCIATION

On May 12, the first day of the meeting there was an executive session in the morning, a public affairs luncheon at the Chamber of Commerce and the Douglas County Auxiliary held a reception at the home of Dr. and Mrs. C. A. Stokes, Fairacres, for the members of the Woman's Auxiliary of the Nebraska State Medical Association in session at the Fontenelle.

The state officers of the Auxiliary were guests of honor and together with Mrs. Harry Miller, Douglas county president, made up the receiving line. The beautiful Stokes home was filled with the many guests from over the state and the tea table was gorgeous with its baskets of deep pink snapdragons and roses. Mrs. Stokes was assisted by past presidents and other officers of the auxiliary. Miss Maxie Swanson, harpist, played during the receiving hour.

The annual business meeting was held May 13 at which the officers gave their reports for the preceding year and the following officers for the coming year were elected:

Mrs. Morris Nielsen, Blair, president; Mrs. Fred Teal, Lincoln, vice president; Mrs. Clyde Roeder, Omaha, president-elect; Mrs. H. R. Miner, Falls City, treasurer; Mrs. William Shearer, Omaha, secretary; Mrs. A. E. Cook, Randolph, honorary vice president; Mrs. F. A. Long, Madison, honorary director; Mrs. Adolph Sachs, Omaha, Mrs. Paul Siman, Wayne, Mrs. J. M. Mayhew, Lincoln, Mrs. Lucien Stark, Norfolk, directors; Mrs. Clarence Rubendall, Omaha, historian; Mrs. A. F. Tyler, Omaha, parlamentarian.

As usual, the annual luncheon was the high light of the convention. Held at the colorful Country club with at least one Omahan as hostess to the visitors, a large number of members enjoyed themselves. Mrs. Harry Miller, president of the Douglas County Auxiliary, presided, and Mrs. George H. Hoxie, Kansas City, Past President of the National Auxiliary and a delegate to the White House Conference on Child Health, spoke on that subject with great spirit and humor.

At the annual banquet, at which our husband's appeared in public with us, Dr. Lucien Stark, president of the State Medical Association, spoke briefly and in a practical mood and the Noguchi Medal was presented to Dr. Olga Stastny, of Omaha, for outstanding work in public health.

On the morning of the last day Mrs. Nielsen, the new president, appointed her standing committees as follows:

Organization, Mrs. F. F. Teal, Lincoln; Public Relations, Mrs. George Neuhaus, Omaha; Legislation, Mrs. C. W. Pollard, Omaha; State Publicity, Mrs. Roy Whitham, Lincoln; Revisions, Mrs. C. C. Tomlinson, Omaha.

GRADUATES CREIGHTON UNIVERSITY COLLEGE OF MEDICINE, 1931, AND THEIR INTERNESHIPS

Abts, A. W., St. Joseph's Hospital, Omaha.

Baldeck, J. E., U. S. P. S., New Orleans, La.

Behnke, E. J., St. Joseph's, Fort Wayne, Ind.

Bonnstetter, H. J., Santa Rosa Hospital, San Antonio, Texas.

Brodkey, M., Michael Reese Hospital, Chicago, Ill.

Borgan, R. E., St. Joseph's Hospital, Terre Haute, Ind.

Campisi, S. V., Santa Clara Hospital, San Jose, Cal.

Carnazzo, S. A., St. Joseph's, Omaha.

Carroll, G. S., Harborview Hospital, Seattle, Washington.

Cantoni, A. J., San Diego County Hospital, San Diego, Cal.

Casper, P. C., Los Angeles County Hospital, Los Angeles, Cal.

Comine, J., St. Catherine's Hospital, Omaha.

Coughlin, J. H., San Bernardino County, California.

Crowe, J. Southern Pacific Hospital, San Francisco, Cal.

Crowley, J. T., San Francisco County, San Francisco, Cal.

Demman, A. J., St. Joseph's Hospital, Omaha.

Dowell, D. A., St. Joseph's, Omaha.

Duggan, R. K., Southern Pacific Hospital, San Francisco, Cal.

Egan, A. R., U. S. P. H. S., San Francisco, Cal.

Fair, Kenneth, St. Joseph's Hospital, Omaha.

Fisch, R. J., St. Joseph's Hospital, Omaha.

Fitzgerald, J. Good Samaritan Hospital, Cincinnati, Ohio.

Geiter, C. J., Memorial Hospital Roxborough, Philadelphia, Pa.

Georges, S., Latter Day Saints' Hospital, Salt Lake City, Utah.

Goldman, S., United Israel Zion Hospital, Brook-

lyn, N. Y.
Grier, J., St. Joseph's Hospital, Omaha.
Hand, M. H., St. Luke's Hospital, San Francisco, Cal.
Halligan, B. J., Highland Alameda County Hospital, Oakland, Cal.
Hohner, J. J., St. Joseph's, Fort Wayne, Ind.
Karlovsky, F., St. Catherine's Hospital, Omaha.
Kempf, T. A., St. Joseph's Hospital, Omaha.
Kelly, T. J., St. Joseph's Hospital, Terre Haute, Ind.
Ketner, L. R., St. Joseph's Hospital, Kansas City, Mo.
Kloecker, H. J., St. Francis, Wichita, Kans.
La Rue, R. J., Providence Hospital, Seattle, Washington.
Lynch, T. A., St. Francis, Grand Island, Nebr.
McHugh, J., San Joaquin Gen. Hosp., Stockton, Cal.
McHugh, P. H., Sacramento County Hospital, Sacramento, Cal.
Markuson, K., Highland Hospital, Oakland, Cal.
Morse, D. L., St. Francis, Grand Island, Nebr.
Mueller, L. D., Latter Day Saints, Salt Lake City, Utah.
O'Connor, M. J., St. Luke's Hospital, San Francisco, Cal.
Puceli, L. S., Douglas County Hospital, Omaha.
Rogers, J. A., U. S. P. H. S., San Francisco, Cal.
Ryan, A. J., Sacramento County Hospital, Sacramento, Cal.
Shumate, C. A., San Francisco City & County, San Francisco, Cal.
Spielhagen, G. F., St. Alexis Hospital, Cleveland, Ohio.
Spiry, A. V., Holy Cross Hospital, Salt Lake City, Utah.
Steffes, C. R.
Tamisiea, F. X., Mercy Hospital, Des Moines, Iowa.
Tushla, F. M., St. Joseph's Hospital, Omaha.
Watke, L. E., Fresno County General Hospital, Fresno, Cal.
Weiss, I., St. Joseph's, Omaha.

UNIVERSITY OF NEBRASKA COLLEGE OF GRADUATES AND INTERNESHIP APPOINTMENTS FOR 1931-32

Baker, George E., St. Mary's Hospital, St. Louis, Missouri.
Baker, Ramey M., Providence Hospital, Detroit, Michigan.
Baugh, Floyd, Seattle General Hospital, Seattle, Washington.
Benesh, Norbert G., Asbury Hospital, Minneapolis, Minnesota.
Betz, Donald A., Immanuel Hospital, Omaha, Nebraska.
Blackstone, Herbert A., Immanuel Hospital, Omaha, Nebraska.
Blum, Henry, University of Nebraska Hospital, Omaha, Nebraska.
Brady, Rolland R., Salt Lake General Hospital, Salt Lake City, Utah.
Burgess, Arthur W., Presbyterian Hospital, Chicago, Illinois.
Carr, James W., St. Luke's Hospital, Duluth, Minnesota.
Collins, Robert M., University Hospital, Omaha, Nebraska.
Crum, Horatio V., Evangelical Covenant Hospital, Omaha, Nebraska.
Ebers, Theodore M., Presbyterian Hospital, Chicago, Illinois.
Egbert, Daniel S., San Diego County General, San Diego, California.
Fairbanks, Warren H., University Hospital, Omaha, Nebraska.
Farnsworth, Ray B., Murray Hospital, Butte, Montana.
Fricke, Fred J., St. Elizabeth's Hospital, Lincoln, Nebraska.
Fuhlbrigge, Arthur A., Lutheran Deaconess Hospital, Chicago, Illinois.
Fuller, Ralph H., Iowa Methodist Hospital, Des Moines, Iowa.
Gant, Landon G., University Hospital, Omaha, Nebraska.
Gifford, Harold, Jr., Passavant Hospital, Chicago, Illinois.
Graham, Albert P., University of Iowa Hospital, Iowa City, Ia.
Green, John D., University Hospital, Omaha, Nebraska.
Heitzman, Holly H., University Hospital, Omaha, Nebraska.
Hervert, William J., Vancouver General Hospital, Vancouver, B. C.
Hille, Carl F., Evangelical Covenant, Omaha, Nebraska.
Hobbs, Elmer T., St. Elizabeth's Hospital, Lincoln, Nebraska.
Kunkel, Lloyd N., Evangelical Covenant Hospital, Omaha, Nebraska.
McCutchan, Guy R., Lakeside Hospital, Cleveland, Ohio.
McShane, Kenneth L., Immanuel Hospital, Omaha, Nebraska.
Mall, Jacob O., Army Station Hospital, Ft. Sam Houston, Texas.
Mall, Werner W., University Hospital, Omaha, Nebraska.
Mangels, Raymond W., Emmanuel Hospital, Portland, Oregon.
Miller, Herbert H., Nebraska Methodist Episcopal Hospital, Omaha, Nebraska.
Moranville, George H., Salt Lake General Hospital, Salt Lake City, Utah.
Moyer, Leonard B., Quain & Ramstead Clinic, Bismarck, North Dakota.
Nerseth, Marvin, Good Samaritan Hospital, Portland, Oregon.
Norine, Vernal C., Vancouver General Hospital, Vancouver, B. C.
Petersen, Harold E., Missouri Methodist Hospital, St. Joseph, Missouri.
Petersen, Marc R., Physical Examiner U. P. R. R., Omaha, Nebraska.
Pinto, Harvey E., U. S. Public Health Service.
Porter, George L., University Hospital, Omaha, Nebraska.
Runty, Harvey D., Methodist Episcopal Hospital, Indianapolis, Indiana.
Sandstead, Harold R., University Hospital, Omaha, Nebraska.
Senter, Walter P., Royal Victoria Hospital, Montreal, Quebec.
Shannon, E. Shelby, Santa Rosa Infirmary, San Antonio, Texas.
Sharrar, Lynn E., Lincoln General Hospital, Lincoln, Nebraska.
Sherrill, Sion F., Gorgas Hospital, Ancon, Canal Zone.
Silvis, Richard J., U. S. Naval Hospital.
Simmons, Cecil F., Letterman General Hospital, San Francisco, California.
Sinclair, Roy D., University Hospital, Omaha, Nebraska.
Soderstrom, James C., Kansas City General Hospital, Kansas City, Missouri.
Soderstrom, Kenneth M., Swedish Hospital, Seattle, Washington.
Strader, Rex M., Lincoln, Nebraska.

Sudman, Albert T., Billings Memorial Hospital, Chicago, Illinois.

Thompson, Thomas D., University Hospital, Omaha, Nebraska.

Vest, Maurice D., Immanuel Hospital, Omaha, Nebraska.

Waggoner, Irving M., Hospital of University of Pennsylvania, Philadelphia, Pa.

Walters, Henry W., Clinic in Colorado Springs, Colorado.

Weymuller, Ernest A., Long Island College Hospital, Brooklyn, New York.

Wise, Ernest E., Providence Hospital, Seattle, Washington.

Wright, Willis D., University Hospital, Omaha, Nebraska.

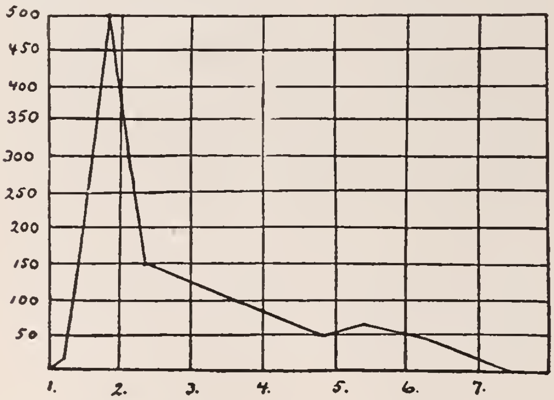
Yoshimura, Kaname, St. Agnes Hospital, Fond du Lac, Wisconsin.

TUBERCULOSIS ABSTRACTS

A REVIEW FOR PHYSICIANS

INSOMNIA IN TUBERCULOSIS

Normal sleep is characterized by complete loss of consciousness. The power to make conscious movements wanes first, after which follows the loss of use of the special senses. All voluntary muscles are relaxed, respiration becomes deeper and slower, pulse frequency is lessened, the blood pressure falls, the temperature is lower, secretions are diminished. Of the special senses, hearing is most easily aroused during sleep.



The intensity or depth of sleep increases rapidly during the first two hours and then drops rapidly again, so that by the third hour the sleeper is very near the margin of consciousness, and from that point on the depth of sleep becomes less until awakening occurs.

Insomnia is the inability to secure a sufficiency of normal sleep under favorable conditions. The etiological factors may be grouped under physiological causes, such as pain, dyspnea, cough, pyrexia, gastro-intestinal disturbances, toxic states, etc., and psychological causes such as anxiety, neurasthenia, hysteria, confusional states, and compulsion neuroses. True primary insomnia probably never occurs; every complaint of sleeplessness must be investigated for its cause.

TYPES OF INSOMNIA

Five general types of insomnia may be easily recognized, as follows:

1. Complete absence of sleep. In tuberculosis, this is most commonly seen during a miliary or acute toxic phase with fever and progressive disease. It is usually of short duration, as complete rest tends to lessen the toxemia, which is usually followed by partial insomnia or even natural sleep.

2. Sleep on retiring for two or three hours and then wakefulness for the remainder of the night. This condition is more commonly seen in cases of moderate toxemia. After a profound sleep for about two hours, there is a partial return to near-consciousness. The patient may awaken startled, all senses alert, and without the slightest desire to sleep. After a night of wakefulness, early morning may bring a short sleep from fatigue.

3. Wakefulness for two hours or longer on retiring and finally sleep. Cases which suffer in this manner are usually the ones who have developed conflicts, especially that of fear. Under the guidance of a sympathetic doctor who understands psychological problems, these patients do extremely well. Fear is an emotion; an emotion is the determining factor of a complex; a complex is an idea plus an emotion. When one complex meets another that is opposed to it, a conflict results. Either a complex or a conflict is, in itself, quite capable of producing insomnia.

4. Wakefulness on retiring, sleep for two or three hours, and then wakefulness the remainder of the night. The group so affected represents a combination of the second and third groups. Their inability to sleep on retiring is due to a development of a fear complex or conflict. The inability to stay asleep may be partly due to neuroses, or in part or entirely to the previous damaging effects of the tuberculous toxin.

5. Dreams: disturbed or restless sleep. Patients so afflicted usually complain of having a "restless night." Their sleep may be broken by dreams or they may complain of becoming tired in one position and the frequent changing of position may not give them the restful sleep they desire. A heightened irritability of their nervous centers brings their threshold of sleep very near their threshold of consciousness and it consequently takes only the slightest stimulation to arouse them.

EFFECTS OF INSOMNIA

Insomnia affects the body as a whole. After a few restless nights, one notices that the patient is more irritable and complaining than usual. He is restless and finds it difficult to lie in bed. He feels a general lassitude but the nervous irritation prevents relaxation. There is a tired feeling about the eyes and a sense of muscle strain. After several days, extreme tiredness and depression are experienced on arising or weariness may develop a few hours later. Headache may develop in the afternoon, along with sweating, clammy hands, cold feet, and vasomotor disturbances. There may be an increase of fever and pulse rate. A distressing effect of insomnia is gastro-intestinal disturbances. Food seems to lose its flavor, anorexia may become so marked that there is postive loathing for food. Alvarez has described this condition as a purely nervous indigestion and suggests for its treatment psychotherapy, sedatives, hypnotics, and special diets.

TREATMENT

Accurate diagnosis is essential. When due to physiological causes, a simple correction of them is indicated. Some cases will demand systematic study and sympathetic understanding. The patient in bed is not necessarily at rest. During the state of fatigue, the slightest physical or mental exertion must be considered excessive. Progressive relaxation as described by Jacobson, a method designed to teach the patient to overcome "residual tension," is of great value (see "Tuberculosis Abstract," March, 1930).

Hypnotics and sedatives have been much neglected and often misused. Morphine is a good pain reliever but a poor sleep producer. The author has used several somnifacients and finds that each of them has certain advantages under given conditions. He selects four drugs, such as paraldehyde, dial, bromural, and amytol, and uses them in succession but in equivalent dosage. Each drug is given about three times in succession and then another, until all four have been given, after which the process may be repeated. By this method, a variety is obtained and there is slight danger of developing a tolerance, even if continued indefinitely.

Drug therapy is aided by prolonged tepid baths, general massage, and alcoholic back rubs. Warm or hot drinks at bedtime seem to have a soothing effect in many cases. Black eye-masks prevent the patients being awakened by the light in the morning. Reassurance, or the inspiration of confidence, is, of course, necessary. Low protein diet is beneficial in some cases. Fresh air is a simple and useful remedy. In addition, some cases may profit by bromides, suggestion, persuasion, hypnotism, and perhaps, by the analysis of Freud, but limitations and objections are common and the gap in therapy is apparent.—Insomnia in Tuberculosis, W. C. Service, Am. Rev. of Tuberc., April, 1931.

THE SOCIETIES

A joint meeting of the **Dodge and Saunders Counties Medical Societies** was held at Cedar Bluff, May 25. A chicken dinner was served and the program follows: "Devils, Drugs and Doctors" was reviewed by Dr. H. D. Myers, Howells; a paper was presented by Dr. C. G. Moore.

The May meeting of the **Madison Five Counties Medical Society** was held at Newman Grove on the 26th. A dinner was served at the Commercial hotel and the program was given at the high school gymnasium. The subject for discussion was Goiter and Dr. H. G. Morris for the the local committee presented 16 cases illustrating the several forms and various phases of goiter disease. Dr. Clyde Roeder and Dr. Rodney Bliss, Omaha, discussed the cases. Owing to the fact that Doctor Scott of the veterans took some time to explain the work of the veteran's bureau and hospital, Dr. A. P. Overgaard and Dr. George B. Potter, Omaha, invited guests and a number of local men who were to participate in the discussion, were excused.

The **Richardson County Medical Society** met at Humboldt on the 20th of May. A dinner was followed by a program on Vitamines given by Dr. F. A. Nelson, Humboldt; Dr. G. W. Egermeyer, Shubert; Dr. O. F. Lang, Falls City.

The **Custer County Medical Society** met at Broken Bow, May 27. A banquet was given. The speakers were Dr. F. W. Heagey, Omaha, "Cardiography"; Dr. D. B. Kantor, Sargent; Dr. R. P. Higgins, Ansley.

The **Fillmore and Saline Counties Medical Societies** held a joint meeting at Friend, June 9, Drs. Frank T. Hamilton and Rodney K. Johnson acting as hosts. A dinner was served, the menu of which literally made one's mouth water.

The program was an obstetric symposium as follows: Pre-Natal Care, Dr. V. V. Smrha; Anesthesia, Dr. Harry J. Wertman; Puerperal Sepsis, Dr. Joseph Bixby; Eclampsia, Dr. William Sandusky; Hemorrhage, Dr. Frank T. Hamilton; Case, Breech Presentation, Dr. Rodney K. Johnson. Moving Pictures: I. a. Mechanism in Animated Diagrams, b. Frank Breech Delivery—De Lee. II. Version and Breech—Piper.

The Seward County Medical Society held its regular monthly meeting at Seward, Nebr., May 28th. There was a good attendance in spite of the rainy night.

Dr. J. Morrow of Seward gave a very interesting talk on medical legislation as seen in the legislature.

Dr. H. B. Cummins of Seward read an excellent paper on colitis, which was followed by a very spirited discussion.

Dr. Bert Morrow's paper on the use of Normet's solution in emergency, when a blood transfusion is not available, was a timely one and very interesting.

The society adjourned for the summer months, to meet again in September.

—Lloyd Ragan, Sec.

The **Northwest County Medical Society** met at Chadron, May 20, for their regular meeting. Following a dinner at the Pullman Cafe, Doctor T. P. Mullins gave a talk on Dental Diagnosis which was illustrated by drawings which he had made showing diseases of the teeth as shown by x-ray and trans-illuminations.

Following this Doctor Mattson of Omaha gave an address on Physiotherapy. Doctor Richards of Crawford reported on the State Medical meeting. Several matters of practical interest to physicians here were taken up and discussed. A goodly number of doctors from this city, Crawford, Hay Springs and Rushville were present.—Chadron Journal.

The **Republican Valley and Tenth Councilor District Medical Society** met at Hastings, May 26. The guest speakers were Dr. Charles F. Moon and Dr. W. A. Cassidy of Omaha. The meeting was held at the Ingleside State Hospital.

The **Cedar, Dixon, Dakota, Thurston and Wayne Counties Medical Society** was held at Emerson, June 26, a picnic dinner featuring the program. The following papers were on the program: "The Approach to a Digestive Case", Dr. Rodney Bliss, Omaha; "Urological Diagnosis and Treatment" (with slides and specimens), Dr. C. R. Kennedy, Omaha; "Discussion of Acute Sinus and Ear Infections", Dr. J. B. Naftzger, Sioux City; "Agranulocytic Angina", Dr. John Buis, Pender.

—S. H. Cook, Sec.

HUMAN INTEREST TALES

Dr. A. J. Schwedehelm, Creighton, did postgraduate work in St. Louis last month.

Dr. D. W. Bell, for several years in practice at Blair, has located at Papillion.

Dr. F. M. Heacock, for ten years in practice at Bancroft, has become associated with Dr. R. E. Hall of Lyons.

Dr. F. A. Alcorn, late of Haxtun, Colorado, has been named superintendent of the Nebraska Orthopedic Hospital.

On a trip home from Spirit Lake, Dr. and Mrs. P. A. Sundbury, Holdrege, called on the editor of this Journal.

Dr. Frank C. Hamm, a Fairbury product, will take charge of the section of Urology of the Grace clinic, Brooklyn, August 1st.

Dr. D. D. Stonecypher and family, Nebraska City, have gone to Vienna for study and incidentally to attend the meeting of Rotary International.

Dr. Roscoe P. Luce, lately from Ann Arbor, Mich., has become associated with Dr. Albert Lynch and Dr. Harold Lynch, Fairbury, in what is to be known as the Lynch clinic.

Dr. Victor E. Levine, Omaha, well known in medical circles as a teacher and writer on biological chemistry, has become a health columnist, as witness his "Keeping Fit For Success" column in the weekly and in some of the daily papers of this state

FAMILIAL NEUROSYPHILIS

Charles C. Dennie, Kensas City, Mo. (*Journal* A. M. A., Nov. 22, 1930), says that with the exception of locomotor ataxia there is no evidence that there is any special neurothrophic strain of *Spirochaeta pallida* transmitted from the parents to the children. This statement is supported by the following facts: In the most severe type of all these diseases, demenion paralytica, the father does not transmit his neurosyphilis to the children through the mother. It is perfectly possible for a father and mother who have no evidence of neurosyphilis to transmit a syphilis to their children that will eventually transmute itself into dementia paralytica or tabes and that will affect only one child. Furthermore, parents who have neurosyphilis or other types than dementia paralytica or tabes may transmit, and often do transmit, syphilis to their offspring in this peculiar manner: the oldest child dies of dementia paralytica and none of the other children have any neurosyphilis at all. In familial neurosyphilis it cannot be proved that a neurotrophic strain of *Spirochaeta pallida* is transmitted, excepting in tabes dorsalis. The records of a number of families are presented. Dennie says that general view of familial neurosyphilis impresses the investigator with its tragic hopelessness. While the patient with dementia paralytica does not as a rule transmit neurosyphilis to his offspring, his heritage of inferior mentality and substandard physique is almost as bad. The neurosyphilitic children of tabetic parents respond to treatment, and one is apparently able to arrest the progress of the disease, but their whole life will be hampered by treatment and limited by observation. And, while they would have died without treatment, they will probably become perpetual charges of society because their treatment has been half-way successful. The treatment of children with neurosyphilis presents as many difficulties as the management of adult syphilis of the same type. The ingenuity of the therapeutist is taxed to the utmost. In the last year malaria has been added to the armamentarium and with decided success. It can be used in any child over 1 year of age. The procedure is fraught with danger and one must be constantly on the alert to terminate it.

TO THE LAST

Farmer: "An' how's Lawyer Jones doin', Doctor?"

Doctor: "Poor fellow! He's lying at death's door."

Farmer: "That's grit for ye—at death's door an' still lyin'."—Drexerd.

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THE COUNTRY DOCTOR LOOKS AROUND*

A. A. CONRAD, M. D.,
Crete, Nebraska.

Over the country we hear laments and eulogies for the Country Doctor. These are for his passing and stress what a great loss he is to the people of the rural communities. It is true that he beard and Prince Albert coat have given place to the modern style of dress, just as the horse has been replaced by the automobile, but he country doctor still remains. He is still the confidant and the advisor of his clientele, to a greater or less degree depending on his ability. With all due respect to the country doctor of the past, I would say that the present country doctor is more capable and efficient than his predecessor, as a result of better educational and economic factors—providing his heart is in his work. One country doctor can now take care of two or three times the practice one did in the horse and buggy days.

Perhaps one of the great factors which has cut down the number of men in country and increased the number in urban practice, is the glamor of the city and the misconception that the doctor in the city has an easier life. The doctor, be he in the city or country, does not have an easy life if he has a large practice. It is a busy, self sacrificing life, be he specialist or general practitioner. Unless one expects to work hard and long, he should stay out of medicine. The long hours, high tension and hurry of a busy practice, demand their toll in the shape of heart, kidney or vascular disease, which do not spare even the specialists and other physicians in the city, any more than in the country.

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*Chairman's Address, Medical Section, read before annual meeting, Nebraska State Medical Association, Omaha, May 12-14, 1931.

Let us take a bird's-eye view of the city through the eyes of the country doctor. We see specialists and self styled specialists on every hand; good, bad and indifferent. We see clans or cliques of medical men in the various strata. We see the separate clans of ability and integrity, real specialists who refer their cases from one to another in order that they and their patients may receive the benefit of good sound medical advice. The various groups refer cases back and forth for the protection of themselves as well as the patient. Diagnoses are not just taken for granted but must have foundation. Cases are discussed, group meetings, staff meetings in the hospitals, clinicopathological conferences, etc., are held. These men are sincere, hard working men and are keeping medicine in the front lines. To the men of this type the general practitioner can send his patient when need be, with the assurance that all that can be done will be done, and his patient will be returned to him for further attention.

Then we have that strata of sincere, though not especially brilliant or capable men who are trying to give a good service, but who just do not have the ability, either natural or acquired, to make first class doctors.

Another stratum is composed of both capable and incapable men who are unscrupulous, fee splitters and patient stealers, whose purpose is to do that which will bring the most money, irrespective of the amount of good the patient receives. Very frequently these are the most convincing talkers. They should be in the real estate, bond or stock game.

Competition is keen in the city. Overhead is high. A physician must be connected with some group or clique in order to get referred cases or he must have referred work from the country to help meet expenses. How to become associated in a "back scratching game" in the city is often a problem. To get the opportunity to show one's ability takes time in most cases, and unless one has considerable money upon which to fall back, he is likely to be forced into unethical practice.

Perhaps the most common unethical practice is fee splitting. Closely associated with this, is unnecessary surgery. In our opinion, the fact that fee splitting is so closely associated with unnecessary surgery, has brought the frown of disapproval upon it. I would not say that the city man is the instigator of fee splitting. No doubt, some have been capable surgeons and in order to get a start have split their fees with the doctor referring the case. After a time he develops a good practice and would like to quit splitting but he cannot get away from it. Those whom he has paid, stop bringing cases when the split stops. There are certain country doctors who demand a split, some as high as 50 or 60% of the fee. They are not especially scrupulous as to the calibre of the surgeon so long as they get their percentage. Such practice enables the unqualified surgeon to exist. A case comes in with a certain diagnosis and though it may be wrong, an operation is done in order not to offend the doctor referring the case. Thus we have unnecessary surgery.

It is hard to understand why a doctor should receive a fee for work he is not equipped for, or is incapable of doing. We cannot all do everything, and do it well. We should know our limitations and stay within them for the patient's benefit. We are entitled to a reasonable fee for our examination and diagnosis. If it is a surgical case, the country doctor should go in with the patient and either assist with the operation or watch it so that he understands what is being done. This improves his diagnostic ability and is of benefit to the patient. For this service, the country doctor should make his charge and not expect a fee from the surgeon for the privilege of operating on the patient. An honest and capable surgeon is entitled to a fair and reasonable fee for his skill and ability. The country doctor is entitled to a reasonable fee for his ability to diagnose the case and for his time spent with the patient to see that all is done that should be done. Should the surgeon pay him for his inability to perform the operation? I say NO. Because one doctor is more able in a certain line, is no reason for his having to pay one less able, for high class service to a patient. Association with men of ability raises the ability and calibre of those who associate with them. The doctor who has not the conviction that the service he is rendering the patient is worth a certain fee, is not giving service. If the patient understands that his best interests are being served by having his family doctor with him, he is willing to pay for it. If the patient understands before he leaves town, that his doctor is charging him a fee for this service, much more congenial relations exist.

The country doctor cannot afford to allow his patient to think his time is of such small value that he can accompany him to the hospital without charge. The doctor who sends the patient in and does nothing more, is entitled to no fee from the surgeon for this courtesy, for if the country doctor had the facilities or training to handle the situation, he would not have to send the case away. The patient is not his property to be sold to the highest bidder. The patient is human and suffering with an ailment which the country doctor either cannot diagnose or, if diagnosed, has been unable to handle. Are we to put a premium on inability, to be paid for by ability? I do not believe it is a square deal to the surgeon or the patient. Were I a surgeon, I would rather do less work and receive my full fee than do more and give half of it away. The doctor, country or otherwise, who demands a split is a "pan handler" and "beggar", accepting alms from a bigger man, admitting that he is not able to provide for himself and must accept from one more fortunate—a sort of communistic idea. And we criticise Russia!

The fact that the surgeon gets $150 for an appendectomy or other less serious laparotomy, looks like big money to the country doctor whose fees do not run so high ordinarily. He craves a city practice, not realizing what his overhead will be.

To the country doctor, or recent graduate, who has to wash his own hands and wipe his own nose, the apparent courtesy and respect accorded the city doctor, by nurses and others, in the hospital, is something grand. He craves to get into this life where he can tread the corridors of a hospital like a king in his palace; have nurses escort him down the hall, step aside as he enters the room, or rise from their chairs when he comes in with a "Yes, Doctor" this and "Yes, Doctor" that, taking curses and orders like a private soldier. It looks enticing and gives a feeling of "By Gad, I am Somebody." In the operating room, at the present time, a doctor must wash his own hands, but is given alcohol for the final ablution, he is handed a towel, a gown is put on, a nurse sprinkles powder on his hands and then puts on his gloves. All of this sort of goes to the head of the country doctor, because he does not see all the weary hours the surgeon or other specialist puts in at his office, his hospital rounds morning and night, teaching classes of nurses and any number of other duties. Yes, the high calibre city doctor has an easy time! The old adage of, "Foreign pastures always look greenest", has much to do with the country doctor's leaving home.

Perhaps if there were educational standards required before one could classify himself as a specialist, things might be different. The mere license to practice medicine entitles a doctor to pose as a specialist in any line he may choose. In fact, I have seen a doctor called in consultation as surgeon one time, heart specialist at another, specialist in pneumonia at another, and at other time patients referred to the same man for glasses or sinus operation, for under the circumstances he was eye, ear, nose and throat specialist. Very adaptable. The country doctor sees the more spectacular things of the city doctor and feels sorry for himself. He feels abused and overworked. The next thing an advertisement appears in several medical journals such as "Practice For Sale, $10,000 practice, equipment and residence optional. Will introduce. Going to specialize." After a month some place specializing, he is in a city office wondering what it is all about. If higher educational standards and a degree were required for specialists, we would have fewer so-called specialists.

Now let us take a look at what the country doctor has. He is living in a town which has running water, electric lights, paved streets, very likely a golf course, and he knows personally most of the inhabitants, both adults and children.

Just because he is practicing in the country, he need not feel that all he needs do is sit in his office, ask a few questions, push a few pills over to the patient and usher him out of the door; or get into his car, go out into the country and perform a similar act. It is just as important and necessary for the country doctor to make and keep a written history and record of examination and medication of his patients as it is for the city doctor to do this. Just because we know intimately most of our patients, does not mean that we can remember all their complaints and medicines we have given. The psychological effect of written history is also very good. The patient feels an interest is being taken in him.

The country doctor has as a rule, the same number of eyes, ears, nose, hands and fingers as the city doctor. He can see, hear and feel, he can look into eyes, ears, nose, mouth and throat, vagina and rectum, he can palpate the neck, chest, abdomen and any other available part of the anatomy. He can percuss, and auscultate as well as stick his finger into any hole the city doctor can. In fact, Dr. Frank Billings has said that the general practitioner can, if he will, diagnose and treat successfully, 80% of the ills humans are heir to. This may be a rather large per cent for the average practitioner, but he can come close to it if he will use ordinary care.

There are a certain number of cases on which he will need help, and capable aid is one of the easiest things in the world to find if he will look for it. When you have decided in which system the difficulty is. there are plenty of good specialists to whom you may refer the patient if one is needed. I have not found a consultant who would not gladly send a report consisting of history—which you should already have, report of examination, which you may check against your own and if he has been more successful than you in locating the trouble, check up on yourself to see if you failed because of carelessness, lack of judgment or because you did not have the advantage of technical instruments which you may not afford to have. If the case is unusual, a trip along with the patient, even though you may not be paid for it, is often of far greater value to you in the future, than the fee may be.

The word "doctor" means "teacher". A specialist should be a teacher of especial value in his field. I have always found them willing to teach one what they could, gladly. One can pick from that what he can use and apply. It broadens one's field of usefulness.

So often we get a dollar bill so close to our eyes that we cannot see ten on the other side. We buy books which we do not have time to even look into, often we buy to get rid of a salesman. We need not rely on salesmen to tell us what to buy in the line of instruments, but when one goes in with a patient for examination, notice the instruments used and decide if they will be profitable and if you can do more good than harm with them. Practice leads to perfection.

A Welch Allen otoscope is worth its weight in gold. It can be used for looking into the ears, as intended. The large ear speculum gives a good view of the nasal passages. An opathalmoscope makes an interesting addition with which to play. A Cameron dental or sinus lamp fits nicely into the battery handle when the otoscope head is removed, A speclight is mighty handy for throat work and often comes in handy in obstetrics when the light is poor. Red and white pipettes with diluting fluids and slides for smears are all easily carried in a grip and, therefore, always available.

An office girl is a most valuable addition to the office of the country doctor. She is there when he is out and can hold patients who would otherwise get away; do minor dressings, weigh babies, test urine, do blood counts. stain smears, keep the books, send out statements—usually they are better collectors than the doctor—sterilize dressings, and run the electro-therapy apparatus, giving the doctor more time for his particular work.

An electric pressure sterilizer for sheets, gowns, sponges, and towels gives one a sense of safety in obstetrics and minor surgical cases. The office girl can fold the sponges during spare moments.

Frequent jaunts to the city keep one in touch with the advances in medicine as picked up by the specialists and which one out in the country would not be liable to find in the ordinary medical journals. It also keeps up his interest.

Various good medical schools are giving courses for the general practitioner which vary in length from five days to several months, if he wishes to take that long or can afford it. Frequent short courses are perhaps of more advantage because they take him away for less time and give him an opportunity to put into practice what he has picked up.

Last year, Dr. Davis read a paper on the increase of mortality in appendicitis. I believe the solution of the question is simple. There are two factors, in my opinion, which operate to increase the mortality. One is lack of care taken by the country doctor in making an early diagnosis. He often waits until the diagnosis sticks out all over the patient. Inasmuch as the majority of right lower quadrant pains are due to appendicitis, that should be his first thought. then by trying to eliminate, first a previous appendectomy, right sided pyelitis, tubo-ovarian disease. colitis and pneumonia, and with the aid of urine examination, blood counts and pulse and temperature records, of which rapid pulse seems to be of greater value than fever, he should be able to arrive at a diagnosis as well and as early as his city confrere. The second factor is, in my opinion, incompetent surgery—that done by so-called surgeons who may be clever enough at removing an appendix but who do not pay attention to the finer details which make the capable surgeon. So many surgeons seem to think that after the operation is done, they have done their bit and pay small attention to postoperative care.

The specialist does not live who is too good to work on my patients, if he is available. I want one of the best. By that, I do not mean that I believe my consultant is the best in his line, but he is one of the best; that I can feel certain my patient will receive efficient, courteous attention and will be charged a reasonable fee in proportion to his ability to pay.

When the country doctor awakens to the fact that his job is just as big and glorious as that of the city doctor, that he can do many things he thinks are peculiar to the specialist, and feels that he would not trade places with any of them, he will quit feeling sorry for himself, get down to work and thus help put medicine on a higher plane and cause many so-called specialists to get down to honest work.

There are numerous ways by which the country doctor can increase his ability and his income and fill in many vacant hours.

In most towns, there is more than one competitor. These men are not paying much attention to some of the most common ailments. A patient comes in with his own diagnosis of piles because he is having some anal or rectal distress or pain. The doctor gives him a prescription for rectal suppositories or dispenses them. He does not look into the rectum to see if it is piles or a fissure or cryptitis. This, in spite of the fact that the patient may have been to other doctors who have given suppositories, etc., without results. It is self evident that something should be done but they are allowed to drift to the city into any kind of hands, when they could be treated at home. Some doctors are too fastidious to look into a rectum because as the outlet for feces, it is dirty. I would as soon look into the average rectum as some mouths I have inspected. Fissures are often more easily cured than piles, by a simple operation.

Infant feeding gets very little attention from the average doctor. It is one of the satisfactory phases of medicine and results are often astounding as well as gratifying. Pull the baby out of a slump and as a rule you will have the mother pulling for you and soon you will have the family. Pediatrics is a good field for the country doctor, not as a side line but as a major factor. The more you learn about infants the better you can treat adults.

Attention to the nose is not a field entirely reserved for the rhinologist. Many pneumonias and other acute diseases have as a beginning, upper respiratory infection. A patient with an acute cold is entitled to more than a sheaf of prescriptions or a load of medicine. Applications of one of the decongesting drugs followed by 10% argyrol packs beneath the middle turbinates and extending well back, accompanied by 20 or 30 minutes of infra-red light, will institute drainage and if given early, will abort a cold. Such treatment will also do much to prevent sinus infection. It is gratifying how quickly relief, not only of headache, but of the general aching and distress, is obtained. The patient may wonder why he came to the office, while he is getting the treatment, but he will be back asking for it next time.

Urine examination need not be limited to the determination of specific gravity, albumen, sugar and acidity. Tests for indican and diacetic acid are not tedious. Microscopic examination for pus, is always valuable. Twenty-four hour specimen with estimation of total solids does take time, but is not difficult. P.S.P. tests are not beyond the means of the country doctor. Blood counts are of great value and unless one has done them on pregnant women, the number of them with anaemia will shock him; the same holds true as regards the nursing mother. These things can be done by the office girl if she has a reasonable amount of training.

Gynecology is a much neglected field. It is very gratifying to relieve a postpartum backache or dribbling of blood or sense of weight in the pelvis by a properly fitting pessary. Pelvic examination six to eight weeks postpartum reveals much that can be corrected at that time and may open your eyes to the brand of obstetrics you are practicing, how your repairs are turning out, etc. The women are often not more appreciative of a good repair of a torn perineum than their husbands. Cautery of an eroded or ulcerated cervix is a very satisfactory piece of work ordinarily. Certain grades of cystic cervicitis are markedly improved by this method without confining the patient to bed or even making her feel badly.

There are any number of things the country doctor can do if he will keep posted. The already tried method of bringing postgraduate work to him will give him information of great value and open his eyes to the fact that much he has let slip to the city, he can do himself. Patients are running to the city doctor because the country doctor is not delivering the service he can and should, simply because he thinks he is in the country and is not able. If he will invest his money in sensible equipment and learn how to use it, he will not need to complain of people going to the city, because they have good roads. Those same good roads will bring them to him, from various parts of the county if he is giving a competent service.

Another thing he must wake up to, is the fact that he must have an office that does not look like an attic of ancestral antiques. He should have a pleasant and inviting waiting room with up-to-date reading material and not a gloomy, dusty, thread-bare space, with windows so dirty one cannot see out. His consultation room should not smell of antiseptics and other things which will nauseate his patients. Try these things and notice the difference. A nice work shop is conductive to better work.

Instead of complaining about people running to the cities for medical attention, put city methods into your country practice, and see the result. Do not get angry at those who do not employ you, deliver service and you can feel sorry for them because they do not know better. Do not be jealous of your competitor for it may be your fault that he has a good practice. Strengthen yourself where he is weak and you will make the grade.

Yes, the city doctor has many conveniences and all that, but I am glad I am a country doctor. I would not trade places with most doctors in the city for considerable to boot.

DISCUSSION

F. B. YOUNG, M. D., (Gering), I think this is one of the best papers I have heard. If we will follow the suggestions made, it will work a revolution in practice. Dr. Conrad has outlined the things that it is possible for every man in the practice of medicine to do. If we arise to our opportunities and possibilities in a professional way as he has made plain to us we cannot help but make a deeper and better impress upon our followers and only good can come. We will feel that at times we fail to arise to our opportunities to the greatest possible extent; and this paper has made plain more ways in which we may meet our responsibilities to our own communities. Such papers are of untold value and I am sure that we will go from here deeply impressed anew with our responsibilities and the better methods of meeting them.

S. A. SWENSON, M. D., (Oakland): I think this is a most excellent paper, and I do not believe we should hesitate to discuss it.

I want to speak particularly in regard to fee splitting. It seems to me there is a common understanding among the laity that the country physician receives a fee from the specialist, and the majority of the people think that is perfectly proper; that there is no reason why he should not get something from it, just as does a lawyer who sends a case to another lawyer.

I have tried to teach my people that there is no reason why surgeons should collect a fee for me. Why should I lower the value of my services in the patient's estimation by asking the specialist to collect my fee I am paid probably a little less in proportion to the service than the specialist is. Perhaps I overestimate the value of my service. I think we are paid usually in proportion to the service rendered. If we render service, we will get the pay. I can not see why I, or anybody else, should ask a specialist to collect his fee. I should be as competent as he is to collect it.

HARRY WERTMAN, M. D., (Milford): I should like to take this opportunity to thank Dr. Conrad for his paper. I think every word of it is true. I wish to say I believe the country doctor receives an inestimable amount of good from the specialist who uses him as Dr. Conrad has said the men he calls treat him. You learn from them. They are teachers, and can teach you. The man in the country, if in trouble, can call those men he patronizes, and they will treat him fairly if he is fair with them, without fee splitting. I have found them willing to tell me anything over the telephone or in person that would help me to get better results in a given case. My best friends today are the men who never offered to split fees, but did business as Dr. Conrad suggested.

B. B. DAVIS, M. D., (Omaha): I have been a member of the State Medical Association about forty years. I think I have only missed two meetings in that time. I do not think I have ever listened to a more inspiring paper than the one just read. I am getting up, not because I have anything to add, but to express my acknowledgment to Dr. Conrad for what he has said.

I think everybody has it in his power to make his practice either an ideal practice which he will enjoy, and be able to do a lot of good to his patients, or to slip into slipshod methods and not do his duty to his patients, or himself. I believe everything Dr. Conrad has said is true, and I hope we will take it to heart and be better practitioners in future because of his paper.

A. R. DOWNING, M. D., (Merna): A little nonsense sometimes might help things along. We get too blamed sober. One time I called up a specialist, and he said, "You do hunt up the doggonedest things I ever saw!"

I replied, "If they weren't the most doggoned things, I wouldn't want you."

DR. CONRAD, (closing): I want to thank you for your kind consideration of this paper. I appreciate it.

I could go on all afternoon on this subject, because I am enthusiastic over it. This sympathy for the country doctor disgusts me. He does not deserve any more sympathy than anybody else. This medical game is a big one. The man in it purely for financial reward is apt to be disappointed. There is a certain gratification in being able to help some poor devil who is down and out.

I do not believe the "butcher and baker and candlestick maker" are any kinder to a man who can not pay than anybody else.

If you deliver the goods and make a reasonable charge according to the individual's ability to pay—of course we must have some standard rates—if you give good, honest service, and are not afraid to say "I do not know" when you don't, I think you will get over the bar in good shape, and when you pass on, you will leave plenty for the folks behind, if you take care of your collections.

I thank you.

Madam: "Listen, cook! My husband complains that the soup isn't good, the roast tastes flat, that the dessert is not appetizing, and so on. This can't last!"

Cook: "I agree, madam, that this can't last. If I were you, I should advise him to consult a physician."

PROGRESS OF SURGERY

REVIEW OF THE LITERATURE OF THE FIRST SIX MONTHS OF 1931

HERBERT H. DAVIS, M. D., F. A. C. S.,
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THORAX

In intractable hiccup, if all the usual methods of treatment fail, Weeks(1) advises fluoroscoping the patient to determine which side of the diaphragm is involved. The phrenic nerve on the side involved should then be exposed under local anaesthetic and a stout ligature passed about it. The nerve can then be anaesthetized, the effect of which lasts about eight hours. Following this, traction should be tried and if it fails the nerve can easily be exposed and crushed. If hiccup still persists there is probably nerve anastomosis below this site. In this case the nerve should be avulsed. If both sides of the diaphragm are involved, then both phrenics should be exposed and blocked either temporarily or permanently.

THYROID

Cole, Womack and Ellett(2), working in the department of surgery, Washington University School of Medicine, on certain occasions, using methylpurines: caffeine, theophylline and theobromine, were able to experimentally produce a hyperplasia of the thyroid which is almost indistinguishable from the toxic goiters of human beings. They feel that since these drugs are so similar to the products of protein catabolism (especially those of the nucleo-proteins) the effect may be dependent on toxic by-products formed during the destruction of protein.

ALIMENTARY TRACT

Morley and Twining(3) do not believe that deep tenderness in peptic ulcer is due to a viscerosensory reflex, as thought by Mackenzie. In studying twenty-five patients with chronic peptic ulcer associated with deep tenderness they found that the location of the tenderness varied with the location of the ulcer and shifted with changes of position of the patient. They recorded one case proving that the stomach, when ulcerated and exposed to direct pressure by an incision under local anaesthesia, is insensitive to pressure. Therefore, they explain deep tenderness as due to stimulation of the sensitive parietal peritoneum by contact with the inflamed area of stomach or duodenum at the site of the ulcer, and radiation from the nerves of the parietal peritoneum to the more superficial branches of the same sensory cerebro-spinal nerves.

Dragstedt, *et al*(4), working at the department of surgery of the University of Chicago, have done some excellent work on acute dilatation of the stomach. The evidence suggests a primary gastric dilatation, reflex in origin, either during the course of an extensive operation or immediately afterwards. There occurs then a secondary mechanical occlusion of the inferior horizontal portion of the duodenum, either by the direct pressure of the dilated stomach on the duodenum in its passage over the spine, or by a secondary arteriomesenteric compression brought about by the downward pressure of the dilated stomach which forces the small intestines into the pelvis.

The absorption of gastric juice, bile, pancreatic juice, duodenal secretions, and water, does not occur in the stomach and duodenum, but to be absorbed must pass farther down into the small intestine. The absorption of gastric and pancreatic juice is necessary to life. In acute dilatation of the stomach the atony and the secondary stenosis of the duodenum prevent the downward passage of these juices and, therefore, they are not absorbed. This produces the seriousness of the condition. Therefore, treatment is gastric lavages to empty the stomach and thus prevent its pressure on the duodenum, and also to give normal saline intravenously, as this supplies the sodium, chlorine and water which are the essential substances to life which are lost in this condition.

Experimental studies by Trussler(5) indicate that amniotic fluid concentrate, when injected into the traumatized peritoneum, produces a reaction stimulating the normal processes of repair and thus minimizing post-operative adhesions. In the presence of contamination, this reaction likewise inhibits the development of fatal peritonitis. However, there is no evidence that it can benefit an advanced case of peritonitis. These observations have been substantiated by clinical trial.

GYNECOLOGY

Cutler(6) considers the effect of ovarian residue on epithelial and connective tissues of the breast is apparently specific. He states that clinical, pathologic, and experimental evidence clearly indicates that excessive epithelial and connective tissue hyperplasia, giving rise to the painful condition commonly called "chronic mastitis", may be due to excessive corpus luteum stimulation. The overactive corpus luteum suppresses ovulation and exerts an estrus-inhibiting influence leading to a hyperfunction of the follicular and interstitial elements of the ovary, as indicated by the short and scanty menstrual periods in these cases. The administration of ovarian residue apparently tends to cause a cessation of abnormal epithelial and connective tissue hyperplasia by counteracting the excessive corpus luteum secretion, thereby diminishing or removing its over-stimulating influence on the breast elements.

A rather discouraging report of the success of transplantation of the ovary is made by Hannan⁽⁷⁾. He does not deny that the stroma cells of a transplanted ovary may persist for some time. However, the function of the ovary depends upon the active Graafian follicular system—that is, the maturation of the follicles and the formation of the corpus luteum. This follicular mechanism continues to function for only a few weeks in transplanted ovaries.

Hartley⁽⁸⁾ described the tetanoid syndrome which often accompanies menstrual cramps. The symptoms are as follows:

1. Cramp-like pains in legs and thighs.
2. Irritability of disposition.
3. Insomnia.
4. Parasthesias of extremities.
5. Oedema of extremities.

Definition of tetany by Falta and Meyers:—"An abnormally increased condition of excitement of the nervous system, which is demonstrable in a heightened excitability of the motor, sensible, sensory, and vegetative nerves, and under certain circumstances in parasthesias and bilateral intermittent, for the most part painful, spasms, with intact consciousness or which become manifest through phenomena of irritation on the part of the vegetative nerves." To it belong also trophic and certain metabolic disorders. It is due to parathyroid insufficiency.

The above five symptoms are increased with each pregnancy.

NEUROLOGICAL SURGERY

As treatment for migraine in which there are symptoms and signs of sympathetic nervous system disturbance, as unilateral ptosis, unilateral sweating, photophobia, congestion of the corneal conjunctiva, swelling of the nasal mucosa, Dandy⁽⁹⁾ has done a sympathetic ganglionectomy in two cases. In the first he removed the inferior cervical and stellate ganglia, on that side, with absolute relief of the attacks. In the second case he removed the superior cervical ganglion with no relief of pain. Therefore, one week later he removed the inferior cervical and stellate ganglia with relief. In both these cases the time since the operation is too short (6½ and 2½ months) to draw definite conclusions, but the method offers a hope for these cases. A large number of these cases is necessary for proof, as Dandy points out.

MISCELLANEOUS CONDITIONS

Two experimental articles, one by Woglum⁽¹⁰⁾ and the other by Sugiusa⁽¹¹⁾, appear in the *American Journal of Cancer* for April on the influence of suprarenal extract on tumor growth. Both experimenters found that suprarenal extract did not inhibit the growth of tumors.

Keyes and McLellan⁽¹²⁾ report on their experiences with spinal anaesthesia by the use of nupercaine. The toxicity in man is about twenty times as great as with procaine. With nupercaine the anaesthesia produced is relatively slightly delayed, more intense and from three to six times as lasting. The fall in blood pressure is less than with procaine. They report two deaths after spinal anaesthesia with nupercaine. They consider the advantages of nupercaine over procaine are greater than the disadvantages. They do not advise the use of a mixture of procaine and nupercaine.

In studying a series of cases of varicose veins treated by the injection of 20 per cent sodium chloride, Howard, Jackson and Mahon⁽¹³⁾, at Stanford University, found a recurrence rate at one year of 98 per cent. In contrast, most of them had partial or complete relief from symptoms. Recurrence in veins thrombosed by injection, was found to take place by recanalization, a natural pathologic response to thrombosis. They advise the treatment of De Takats in dilated veins of the thigh, which is to ligate or excise the veins of the thigh and combine this with injection of the veins below this.

Practically the entire January issue of Guy's Hospital Reports is made up of papers on streptococcus infections. Ryle and Smith⁽¹⁴⁾ advise early blood culture for diagnosis. For treatment they insist on (1) good nursing, (2) forced fluids up to six pints daily, together with glucose and alkalies during the invasion stage, when the heart is severely taxed, and febrile acidosis and vomiting are commonly present; (3) watchful care for the development of infection in joints, pleura and pericardium, effusions being treated so far as possible, by timely aspirations, so long as the fluid remains thin, and by surgical drainage if it becomes frankly purulent; when blood cultures become negative, but the temperature remains high, the search for metastases must be pursued with particular care; morphine for pain, restlessness and sleeplessness; and (4) appropriate immobilization of infected joints. They state that there is no sound evidence, either experimental or clinical that mercurochrome and other chemical antiseptics given intravenously do any good. Some of them have undoubted toxic effects and should be avoided. Whether or not the administration of anti-streptococcal serum is ever a cause of improvement or cure is open to debate. It is not proved that any of the available sera are strictly anti-bacteriocidal. Some of them are reputed to be anti-toxic and noteworthy among them is scarlatinal antitoxin. If used, serum therapy should be started early and given in adequate dosage. If no good effect within two or three doses, its use should be discontinued.

A study of different skin disinfectants was made at the University of Rochester by Scott and Berkhaug(15). They found tincture of metaphen to be the most efficient skin disinfectant. Surface skin disinfection of the unwashed human skin was obtained in 28.8 per cent of tests with mercurochrome, 96.1 per cent with tincture of iodine and 98.0 per cent with metaphen solution. Deep skin disinfection (scraping tests) was obtained in 3.8 per cent of tests with mercurochrome, 84.6 per cent with tincture of oidine, and 94.2 per cent with metaphen solution.

The metaphen solution contains metaphen crystals 0.5 grams dissolved in a mixture of 50 cubic centimeters of 95 per cent alcohol and 10 cubic centimeters of acetone. To the completely dissolved mercurial compound was added slowly, and while stirring, a mixture containing 39 cubic centimeters of distilled water and 1 cubic centimeter of a 1 per cent aqueous solution of eosin. To make this solution permanently stable are added 2.5 cubic centimeters of normal sodium hydroxide per 100 cubic centimeters of the formula. This preparation is stable, is highly bacteriocidal, penetrates to the deep layers of the skin, is pink and so quite visible. Because of its low surface tension it spreads evenly over the skin, is not irritating, is harmless to metallic instruments and rubber and linen soaked in it is readily cleaned with ordinary soap and water.

BIBLIOGRAPHY

1. Weeks, C.: Surgery of the Phrenic Nerve in Treatment of Intractable Hiccup. Ann. Surgery, April, 1931, 93, 811-815.

2. Cole, W. H., Womack, N. A., and Ellett, W. H.: The Production of Hyperplasia of the Thyroid Gland by Chemical Means. Arch. Surg., June, 1931, 22, 926-935.

3. Morley, John, and Twining, E. W.: The Mechanism of Deep Tenderness in Gastric and Duodenal Ulcer. Brit. J. Surg., January, 1931, 18, 376-399.

4. Dragstedt, L. R., Montgomery, M. L., Ellis, J. C., and Matthews, W. B.: The Pathogenesis of Acute Dilatation of the Stomach. Surg. Gyn. and Obstet., June, 1931, 52, 1075-1086.

5. Trusler, H. M.: Peritonitis: Arch. Surg., June, 1931, 22, 983-992.

6. Cutler, Max.: The Cause of "Painful Breasts" and Treatment by Means of Ovarian Residue. J. A. M. A., April 11, 1931, 96, 1201-1205.

7. Hannan, John C.: Further Observations on Ovarian Transplantation. Brit. Med. Jour., 1-24-31, 137-138.

8. Hartley, E. C.: The Tetanoid Syndrome and Its Relation to Menstrual Cramps. Amer. Jour. Ob. and Gyn., May, 1931, 21, 725-727.

9. Dandy, W. E.: Treatment of Hemicrania (Migraine) by Removal of the Inferior Cervical and First Thoracic Sympathetic Ganglion. Bul. of Johns Hopkins Hospital, June, 1931, 48, 357-361.

10. Woglum, W. H.: The Suprarenal and Tumor Growth. Amer. J. Cancer, April, 1931, 15, 704-706.

11. Sugiura, K.: Further Study on the Influence of An Aqueous Extract of Suprarenal Cortex on the Growth of Carcinoma, Sarcoma, and Melanoma in Animals. Amer. J. Cancer, April, 1931, 15, 707-724.

12. Keyes, E. L., and McLellan, A. M.: Further Experiences With Nupercaine. J. A. M. A., June 20, 1931, 96, 2085-2091.

DISCUSSION OF POLIOMYELITIS*

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Acute poliomyelitis is now generally accepted as an acute systemic infectious disease, which requently involves the central nervous system. The study of this disease in recent epidemics has hown, however, that in a large per cent of cases, no injury of this system was manifested.

The exact nature of the virus or infectious gent is a matter of considerable controversy mong research workers. They are divided principally into two groups, both claiming to have isolated an organism capable of producing the disease. On the one side we have Flexner and Nuguchi, who have found with great consistency minute, anaerobic, globoid bodies taken from poliomyelitic tissues. Pure cultures of these bodies were injected intraspinally into monkeys, and typical experimental poliomyelitis resulted. From the central nervous system of these same monkeys injected, the globoid bodies were recovered. On the other hand, Rosenow(2), Nuzium, and Matthews claim to have found, in equal regularity, streptococci isolated from poliomyelitic tissue. He states they resemble somewhat the globoid bodies, pass through the Berkefeld filter and will produce experimental poliomyelitis in monkeys. Bull, Draper(1), Peabody, Moss and others dispute this. It is important from a serum therapy standpoint which group of investigators we accept. This will be discussed in the treatment of the disease.

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Poliomyelitis occurs mostly in epidemic form. Undoubtedly there are many sporadic cases which are never diagnosed. Epidemics occur throughout the world, usually during the summer and fall. Man is the only susceptible vertebrate to the disease, excepting the ape family. All ages are susceptible. It occurs most frequently in children under ten years of age. It is most severe in young adults. Mortality varies from five to forty per cent, according to the occurrence of the bulbar types. The latter type is usually very rapid, fulminating and fatal. The low mortality rate, in the spinal form, is due to three things: 1, acquired immunity; 2, natural resistance; 3, efficiency of serum therapy. Practically all observers and students of epidemics believe human contact(3), direct or indirect, the means of transmission. There are many cases reported wherein physicians and nurses in attendance have apparently brought the infection into their own homes. The virus of poliomyelitis is wide spread. It has been found in patients, on postmortems in various tissues of the body, other than the central nervous system. Numerous carriers of the disease exist. Flexner, Noguchi, Rosenow, Matthews and Draper(4) all claim to have recovered their particular virus from the tonsils, pharyngeal mucosa and nasal regions. However, the nasal secretion has a neutralizing power(5), and the nasal mucosa has a great impermeability quality. Likewise, the meningeal choroidal complex offers great protection against the infecting agent or virus going into the central nervous system. If nasal douches of antiseptics are used, the permeability of the nasal mucosa is increased. Authorities agree that local treatment of the throat, tonsils and nasal pharynx, in the way of gargles, sprays and swabs, are of no value, either as prophylactics or as therapeutic agents in the preparalytic stage.

The pathology of poliomyelitis is fairly well known by animal experimentation and post-mortem examinations of the human. There is a generalized oedema of the meninges, brain and cord, associated with areas of hemorrhage. "This pathological process is most marked in the cervical and lumbar region of the cord. The nerve root ganglia of the anterior horns is more affected than the posterior horns because of the greater blood supply in these regions. If the hemorrhage and oedema is absorbed soon, the nerve cells of the affected region, whose function may have been interfered with by pressure, will recover, and no or less paralysis will develop, or it will more rapidly disappear if already present(6). The symptoms and signs of poliomyelitis should be divided into two groups, the first showing evidence of a general systemic infection; the second, the result of specific action in the meninges, brain and cord of the poliomyelitis virus.

According to Draper(7), "the first phase of the disease occurs much more frequently alone, or without the paralysis." He estimates from fifty to eighty per cent of the total incidence. The recognition of this pre-paralytic stage is the big problem for the diagnostician. In times of epidemics, recognition is much easier because of the frequency of the disease, and the physician being alert to its symtom complex.

The onset of the disease is usually insidious, of two to five days duration. It is frequently mistaken for a mild case of grippe with myalgia of muscles of the neck, back and limbs. "Fever is the most constant and usually the first symptom. It varies much in degree in individual cases, and in different epidemics, also in its duration."(8) Many cases are reported with temperatures not exceeding one hundred degrees, some, however, run as high as one hundred four and one half degrees to one hundred and five degrees.

Next to fever, there is a generalized tenderness or hyperesthesia in the neck region, over the spine, arms and legs. Severe pain is sometimes complained of in these regions, lasting two to three days. Headache is invariably present and often very severe. It is apt to be both frontal and occipital and accompanied with backache.

Vomiting is a common symptom, occurring usually at the onset only, rarely does it continue during the illness, except in the bulbar type. Constipation is almost uniformly present, rarely diarrhoea. Difficulty in swallowing or speaking is highly significant of bulbar paralysis. Several of my patients have exhibited muscular twitchings and tremor. Sweating about the forehead and lips is occasionally present. Convulsions occur rarely, then only in younger children and infants. Retention of urine is not uncommon.

This completes the list of the most common symptoms of the systemic stage of poliomyelitis. To repeat; the combination of fever, headache, vomiting, constipation, drowsiness and irritability, slight flushing of the face, abnormal sweating or retention of the urine, is sufficient to make a tentative diagnosis of poliomyelitis, occurring in the presence of an epidemic. However, there are definite meningeal symptoms and signs, usually present, which are of greater value and of more direct help in making the diagnosis. Of these, rigidity of the neck with pain on spinal flexion; hyperesthesia and increased reflexes are the most important(9). The most helpful sign to me is the spine sign. This has been described as a voluntary disinclination to flex the spine anteriorly because it hurts. There is a definite rigidity of the neck, but rarely is there a retraction or definite opisthotonos as in cerebral spinal meningitis, and never lateral limitation(10). Hyperesthesia and pain are important symptoms of meningeal involvement. Tenderness of the skin is often elicited and also of the muscles on deep pressure. This is often diagnosed as rheumatism or neuritis. The patient frequently complains of popliteal pain, which is probably due to the hypertonicity of the hamstring muscles.

Other indications that the central nervous system is being attacked, is shown by disturbances of the reflexes.

At first in the irritative stage, we find an increase in the reflex response(11). The tendon reflexes are usually exaggerated at first. This is particularly true of the patellar or knee jerk and the ankle jerk. As the disease progresses, these deep reflexes are normal to start with but also become diminished or absent later on. Diminution of reflexes is a sign of impending paralysis. The Kernig sign, inability to extend the knee fully when the thigh is flexed at right angles to the body, is usually not present as it is, so definitely, in cerebro-spinal meningitis. However, the degree of meningeal inflammation may or may not be sufficient to give a positive Kernig's sign.

One other constant symptom in poliomyelitis is muscular weakness and general fatigue, out of proportion to the other symptoms.

The syndrome of the preparalytic stage of poliomyelitis, having the systemic and meningeal symptoms previously mentioned, should be recognized in most cases. To confirm our diagnosis, a lumbar puncture and examination of the spinal fluid is strongly indicated. It will give us definite evidence of meningeal inflammation, relieve the pressure and help us to rule out other forms of meningitis. The spinal fluid when received is under slightly increased pressure. It shows a varying degree of turbidity but is clear or nearly so in the earliest hours of the disease. There is an increased albumin and globulin, but no organisms are usually found. Rosenow differs, however. As the case develops, the increased amount of fluid and pressure diminish, and the cell count rises. According to Draper(12), anything over ten cells per cubic millimeters is abnormal and suggestive of poliomyelitis. It may reach a count as high as two thousand five hundred cm. or higher. The average is sixty or eighty up to five or seven hundred. Many authorities state that cases showing lower than one hundred per cubic millimeter the first twenty-four hours, are less likely to develop paralysis than those whose count is over one hundred. The cells are mononuclear leucocytes. "Paralysis, manifesting the appearance of the second phase of the disease occurs shortly after the symptoms of the first phase subside, usually within three to four days. The degree of central nervous involvement varies, from the slightest transient irritation of the meninges, to a complete destruction of the gray matter. The location, or what muscle group will be attacked, cannot be previously determined. However, the initial paralysis is the final one". The legs are more often paralyzed than any other region. Next in frequency is arm paralysis. The deltoid muscle is the most frequently involved in the upper extremity. The gastrocnemius and anterior tibial muscles are most often affected in the lower extremity. Of the head muscles to be most affected, is the external rectus of the eye, causing the converging squint. The rapidly fatal case is usually due to the paralysis of the bulbar centers of respiration, with the extension of the paralysis to the neighboring centers of the phrenic nerve in the cervical cord(14).

The prognosis of the outcome of a case of poliomyelitis is very uncertain. It should always be guarded, first as to life, second, if paralysis will appear following the systemic phase, and third, if the paralysis will be permanent.

TREATMENT

In the acute stage of the disease, when the patient is feverish, restless and irritable, or in pain, general treatment should be employed. Hospitalize the patient, if possible. At any rate, isolate to the best advantage of the patient and protect the rest of the household. It has been satisfactorily established that the disease is spread by human contact, directly or indirectly. Well trained nurses are absolutely essential. Establish rest. Relieve the apprehension, restlessness and pain by giving opiates if necessary. The child must be kept quiet at all times. Careful observation and the taking of temperature frequently, to determine the frequency and amount of serum to be given, with its reactions, are most important. Lumbar punctures are of tremendous importance, not only for diagnostic purposes, but for their therapeutic value(15). They relieve meningeal irritation and decrease the intra-cranial pressure. Many believe they are of great value in preventing paralysis. As has been previously stated, if we are to combat successfully this serious disease, an early diagnosis in the preparalytic, febrile period must be made. Serum therapy is the best means of succeeding. At the present there are two kinds in general use, namely, The Human Convalescent Serum, and the Poliomyelitis Anti-streptococcus Horse Serum, as developed by E. C. Rosenow and his co-workers. Going over the literature, a very large per cent of the investigators, research workers, writers and clinicians favor the use of the human serum of recovered cases in the treatment of the disease. Draper, Amos, Flexner, Taylor, Francis Peabody, Ayer, MacNamara, William H. Park, J. B. Neal and many others strongly advocate the use of the convalescence serum.

Rosenow, Matthews, Nuzium, Rowan, Dow, Dively and others believe there is great virtue and show positive curative action in the treatment of acute poliomyelitis with poliomyelitis anti-streptococcic serum. All agree that serum is best given in the pre-paralytic stage. Many authorities believe there is little use in giving it after paralysis has developed. Rosenaw, however, maintains that his serum is of value in the paralytic stage.

In a personal communication from E. C. Rosenow, he states: "I have had very little experience with the use of convalescent serum, in the treatment of poliomyelitis, but in those instances when it was given, I have yet to see the first case in which it has had a striking beneficial action comparable to that which I have seen so many times following the use of my poliomyelitis anti-streptococcic serum. You will note in the reports, that only a small percentage of patients who received my serum in the pre-paralytic stage of the disease developed paralysis following its use. This is in sharp contrast to what occurs when convalescent serum is given in the pre-paralytic stage. You will also note that the mortality rate and the degree of residual paralysis in the cases treated with my serum after paralysis has begun, is much lower than in the untreated control cases. I have again been able to demonstrate the streptococcus from which the serum is prepared, in the spinal fluid of every acute case of poliomyelitis, that occured the past summer and fall. The use of the serum on that alone seems to be a rational procedure." Rosenow(16) reports a series of 158 cases occurring in the summer and fall of 1928, in which his serum was used.

There were 62 patients from 8 days to 5 years of age; 45 patients from 6 years to 10 years of age; 38 patients from eleven to 20 years of age; 11 patients from 21 years of age and over.

The sex distribution favored the males which is the usual occurrence.

There were 356 injections given intra-muscularly in the 158 cases. The amount of serum varied from 5 to 160 ccs. The average amount in each case was 62 ccs. The reaction to the serum was severe in but three cases, moderate in three and slight in six. Thre were none desensitized except a few cases, giving a history of sensitiveness to horse serum, asthma or hay fever.

The mortality rate and the incidence of residual paralysis was greater the longer the delay in administration of the serum. Rosenow states that "of the fifty cases in which serum was given in the preparalytic stage, paralysis developed in only five cases." In two cases, the patients were in very serious hopeless condition when the serum was given—"in three cases of the twenty-two patients in whom there was slight paralysis, at the time of first serum treatment, there was extension of paralysis". In five of the thirty-one cases in which moderate paralysis had developed, there was extension of the paralysis. Three cases progressed to a fatal termination, in nine of the twenty-eight patients who survived, slight residual paralysis remained; the remainder of the patients recovered completely.

"In 18 of the 55 cases in which marked paralysis had developed before serum treatment was begun, there was extension of paralysis. In ten of these it progressed to a fatal termination. Of the 45 patients in the group who survived, eleven recovered without residual paralysis. Residual paralysis was slight in 8 cases, moderate in 16 and marked in 10 cases.

This report shows conclusively there is great merit in Rosenow's serum. Many clinicians report equally as good results in its use.(17)

In the last three years, several series of cases in which patients were treated by human immune serum have been reported. Ayer of Syracuse, Aycock and Luther of Boston, Jean MacNamara of Australia, all present large series of cases(18). Their results compare favorably with Rosenow and his serum. However, their cases were all treated in the preparalytic stage.

I have been unable to secure reports of series of cases of poliomyelitis treated in Nebraska by convalescent serum or by Rosenow's poliomyelitis. antistrepticoccic serum. Cases of this disease reported to the State Bureau of Health of Nebraska have been as follows[19]:

In 1925, 125 cases with 42 fatalities.
In 1926, 20 cases with 15 fatalities.
In 1927, 115 cases with 22 fatalities.
In 1928, 38 cases with 10 fatalities.
In 1929, 9 cases with 8 fatalities.
In 1930, 287 cases with mortality records not complete.

In conclusion, I wish to state, I have treated poliomyelitis with Rosenow's serum since 1921 with satisfactory results. Of 17 cases I have data on, the results are as follows: 11 completely recovered without any residual paralysis, of this number 3 had slight moderate paralysis, lasting from three to six months. Four have moderate paralysis of over two to five years duration. Two cases were fatal. Of these, one died within 48 hours of the bulbar type, one died after complete paralysis, four weeks from the onset of the disease.

Dr. P. H. Bartholomew, in a recent communication, writes: "Statistical information concerning the use of convalescent serum in Nebraska, is not available. However, such reports as have been published, indicate early use of this serum of undoubted value, in that paralysis is either entirely absent or very slight."

My experience with the convalescing serum in the treatment of poliomyelitis, has been limited. Last summer and fall I used it in three cases, all in the preparalytic stage. Two fully recovered with no paralysis, one has a slight residual paralysis.

SUMMARY

1. Poliomyelitis is an acute systemic infectious disease, which may or may not extend to the central nervous system.

2. It usually occurs in epidemics, spreading by human contact. directly or indirectly.

3. The preparalytic stage of poliomyelitis presents a definite clinical picture. The most important diagnostic sign is the neck sign, rigidity of the neck with pain on spinal flexion.

4. Lumbar puncture should always be done for diagnostic and therapeutic relief.

5. Early diagnosis in the preparalytic stage and serum administered at this time, offers the best results both as regards life and the prevention of paralysis.

SOME OF THE MORE IMPORTANT POINTS IN THE EARLY DIAGNOSIS OF BRAIN TUMORS, AND THEIR PRESENT-DAY TREATMENT*

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St. Louis, Missouri.

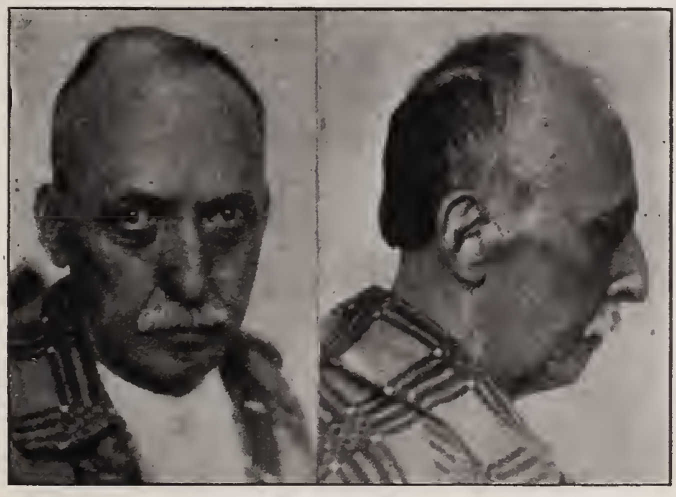

Fig. 1. Bony deformity over an endothelioma growing along the longitudinal sinus. The bone in many of these cases is infiltrated by tumor cells and has to be removed, as in this case, with the tumor, in one mass.

Ladies and Gentlemen: The brain is the third most frequent site in which tumors occur. In view of this fact, and the fact that this is such a very common disease, we must be amazed that the diagnosis is still frequently missed.

I propose this morning to run over some of the important points which should help in recognition of brain tumors, and say a word about the present-day technique that is used.

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*Presented before annual meeting Nebraska State Medical Association, Omaha, May 12-14, 1931.

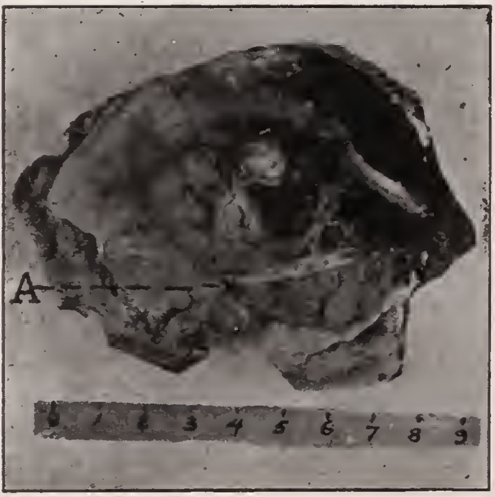

Fig. 2. The endothelioma, removed at operation, in patient shown in Fig. 1. In this case there was a tumor mass on each side of the longitudinal sinus, and the longitudinal sinus had to be removed with the tumor masses and the infiltrated bone. A—the longitudinal sinus.

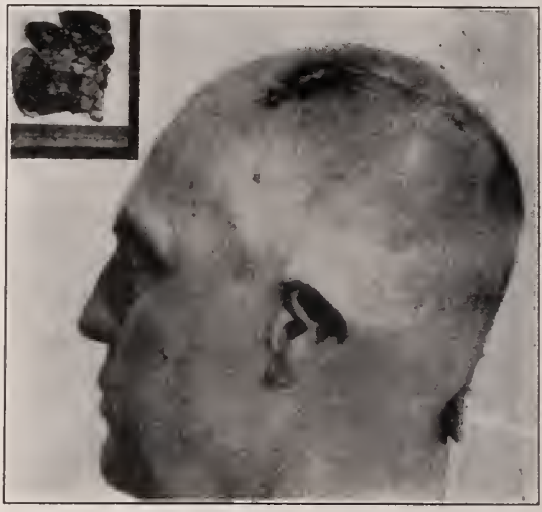

Fig. 4. Tumor (tuberculoma) lying in the first temporal convolution, far back, causing for years an auditory aura. At the time of admission to the hospital, the patient's clinical picture suggested a lesion in the Rolandic area. The history of the aura, however, established the localization.

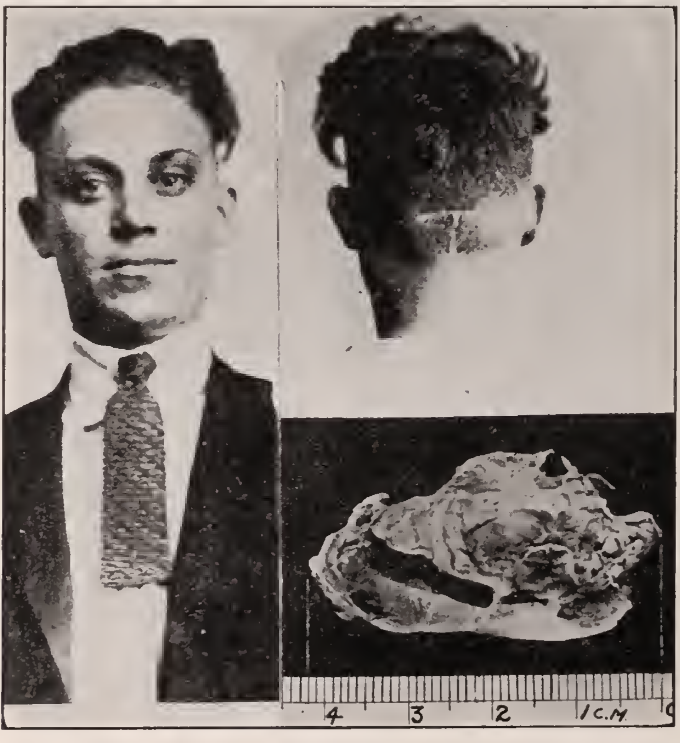

Fig. 3. Benign type of glioma, so-called astrocytoma, which is a cyst containing a nubbin in its wall. When this nubbin is removed, a permanent cure is effected.

In the first place, I should like to point out this fact: Brain tumors, about 45 per cent of them, fall into the group of well encapsulated tumors which are curable, and can be removed without recurrence. Of the other 55 per cent, about 45 per cent are commonly known as gliomas. Until a few years ago, it was believed any tumor that was a glioma was an inoperable affair. We have learned in the last ten years there are a great many tumors we had called gliomas that are just as amenable to surgical interference as the encapsulated tumors I have first spoken of; and there is a comparatively small group of gliomas that are what I have been in the habit of calling malignant gliomas.

Over half the gliomas are encapsulated and can be removed surgically just as satisfactorily as endotheliomas. Of all brain tumors, it is conservative to say 75 per cent are perfectly operable. The other 25 per cent constitute a difficult problem, but with methods we have been using in the last few years, we are able, if not to cure them, at least to give them periods of relief.

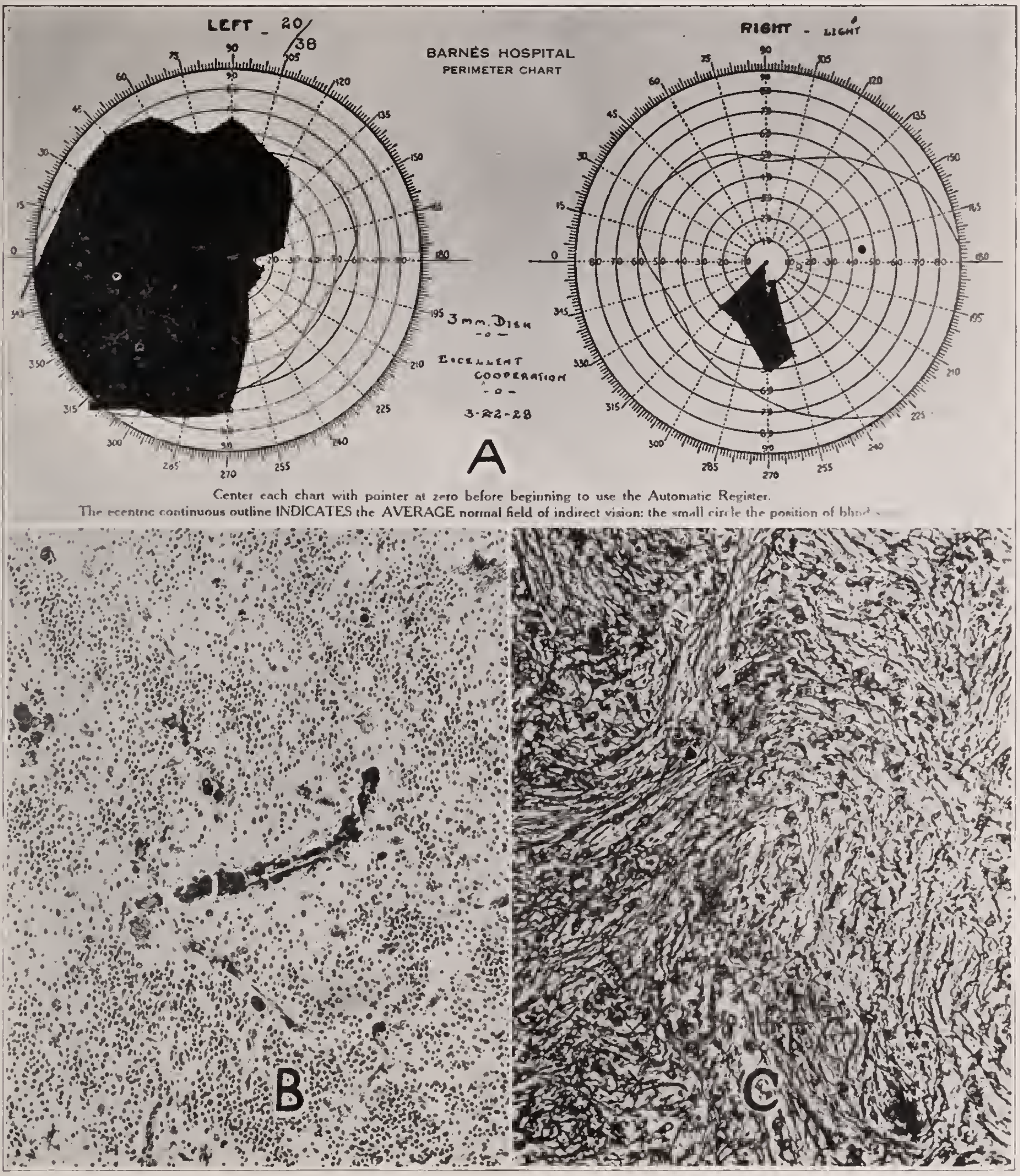
LEFT - 20/38
BARNES HOSPITAL
PERIMETER CHART
RIGHT - LIGHT
3 mm. Disk
Excellent cooperation
3-22-28
A
Center each chart with pointer at zero before beginning to use the Automatic Register.
The eccentric continuous outline INDICATES the AVERAGE normal field of indirect vision: the small circle the position of blind
B
C

Fig. 5. Tumor of the occipital lobe. The diagnosis was made by the eye fields which showed a right homonymous hemianopsia. In the right eye the vision was almost gone, just a small quadrant of vision was left in the lower inner quadrant. Tumor was an ependymoma and was removed "in toto". Patient has been perfectly well since.

As in every other field of medicine, the diagnosis is of vital importance. There are certain things in the examination of neurosurgical cases that need to be emphasized. One of these is the value of a detailed chronologic history.

The value of a chronologic record in the history was illustrated by the case of a man who had temporal lobe symptoms for many years before his tumor became sufficiently advanced to cause a hemiplegia. The temporal lobe symptoms made it possible to find the tumor. Had it been looked for in the motor area, it would have been missed completely.

(A number of pictures were then shown illustrating the value of an eye field in making a localizing diagnosis.

Following this, a number of lantern slides were shown illustrating tumor shadows and the various types of changes that may be seen in an x-ray plate. It was then pointed out that there are always some cases in which a localizing diagnosis can only be made by the use of air injection and a number of slides were shown illustrating such cases.

Finally, a number of pictures were shown of the appearance of patients' heads before the days of electro-surgery, and then a series of plates illustrating what this change in technique has done.)

I realize fully that the subject I have been dealing with has been such a large one that I have been able to point out only a few of the important points. The two most important ones, in my opinion, are the value of a careful physical examination and the great advance in technical methods since we have been using electro-surgery.

PRIMARY CARCINOMA OF THE LIVER
A REPORT OF FOUR CASES

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Although the liver is commonly the site of secondary carcinomata, it is rarely the site of primary malignancies. The fours cases of primary carcinoma of the liver that we are here reporting occurred in a series of 1100 autopsies, an incidence of 0.36%. A recent review⁽¹⁾ of the literature revealed an incidence of primary carcinoma of the liver of 0.14% in 42,276 autopsies. Included in this review were several series in which the incidence was very low. The incidence depends to some degree on the classes of persons included. In many series which includes many children it will be low, while in that including many orientals it is apt to be very high. Clawson and Cabot⁽²⁾ were able to report only one case in 5100 autopsies, while Smith⁽³⁾ saw 22 in 872 autopsies in the Philippines.

Histologically, these malignancies can be divided into two types. The first arises from the liver cells and is called a liver cell carcinoma or hepatoma, while the second arises from the bile ducts and is called a cholangioma. The liver cell type is the more common and is composed of cords of cells with a scanty stroma bearing some resemblance to liver cords. The bile duct type is composed of cells having a duct-like arrangement. Three of our cases were of the liver cell and one of the bile duct type.

The histological diagnosis of these tumors is not easy, since they may be confused with other conditions. The cells of the tumor may resemble either the liver cells or the duct cells and may have a cord-like or a duct-like arrangement. The stroma may be delicate or abundant. The demonstration of bile pigment in the tumor cells is a helpful point, especially in metastatic nodules. Vascular invasion is a striking characteristic of the liver cell type. Tumor thrombi may extend up to the right side of the heart as in one of our cases.

These tumors show little tendency to metastasize, but if they do the lungs and the lymph nodes are the commonest sites. The metastatic nodules are frequently atypical, but can often be identified by the demonstration of bile pigment in their cells. We were able to find metastatic nodules in three of our cases.

The most interesting point concerning these tumors is the question of the relationship they bear to cirrhosis. Primary carcinomas of the liver are so frequently accompanied by cirrhosis as to lead many authorities to hold that cirrhosis is an etiological factor. The chronic progressive types of cirrhosis furnish the cell changes most favorable for the development of carcinoma. Continued necrosis of liver cells possibly is followed by degeneration, finally resulting in the production of cells free from control and proliferating indefinitely as a tumor. McCallum says they are always accompanied by cirrhosis. Beattie and Dickinson⁽⁴⁾ says they are usually accompanied by cirrhosis. Boyd⁽⁵⁾ says the relation to cirrhosis is a puzzle, but it is probable the cirrhosis is a primary lesion. Karsner⁽⁶⁾ is of the opinion that there is a definite relationship between the two conditions and in support of this view says, "It is true relatively few cases of cirrhosis of the liver show carcinoma, yet they show cancer-like changes in the increased number of ducts and the isolated islands of irregularly arranged liver cells, sometimes to such a degree as to render the final diagnosis difficult." Secondary carcinoma, on the other hand, is rarely associated with cirrhosis. This theory is further supported by the fact that primary carcinoma of the liver is far more common among oriental people, probably due to the fact that they are prone to have cirrhosis of the liver as a result of parasitic infections. Berglund[7] in 1312 autopsies in the south of China found 16 cases of primary carcinoma of the liver, a very high percentage. In the same series there were 53 cases of cirrhosis.

Opposed to the view that there is an etiological relationship between cirrhosis and primary carcinoma of the liver are the following facts: (1) few cases of cirrhosis ever develop a primary malignancy of the liver, (2) some cases occur without cirrhosis and (3) these malignancies are commonly unicentric and not multicentric.

In our series of four cases, three showed evidence of cirrhosis. In this same series of 1100 autopsies there were 48 cases of cirrhosis of the liver. Hence, only one case of cirrhosis in sixteen developed a malignancy, and one primary carcinoma of the liver out of four gave no evidence of cirrhosis of the liver.

These cases are rarely diagnosed antemortem due to the absence of any typical signs or symptoms. A very rapid enlargement of the liver is very strongly suggestive of a primary malignancy. In our series one was diagnosed antemortem and in this case the liver was enormous. The clinical course is short and averages about three months from the earliest symptom.

Case I. Autopsy 320: A white farmer of 49 was admitted to St. Joseph's Hospital May 8, 1923, complaining of nausea and vomiting. Two months previously the patient was struck in the abdomen by a hog chute. Thereafter, he was nauseated and suffered a loss of appetite. Gradually he lost strength. One month before admission he began vomiting and vomited for one week. The vomitus consisted of a greenish yellow material. Vomiting occurred one hour after meals and gave relief from distension. During this period he was jaundiced. Blood pressure 118-70. Dullness with feeble breath sounds at the right base. Spleen three fingers below the costal margin and firm. Liver slightly enlarged and a nodule felt along lower margin. All reflexes diminished.

Red count 3,900,000, hemoglobin 65%, white count 13,000. Wassermann negative. X-ray shows some mottling of lung fields. He expired 5-12-23.

Anatomic Diagnosis (B.C.R.) Primary duct-cell carcinoma; secondary carcinomata of all lobes of both lungs; obliterative pleuritis, right; chronic pleuritis, left; anthracosis of lungs and peribronchial lymph nodes; slight senile arteriosclerosis; hyperemia of lower lobe of the left lung; acute splenic tumor; fibrous perihepatitis; pyorrhea alveolaris; papilloma on dorsal surface of right hand; superficial ulcers of the rectum; external hemorrhoids; general emaciation.

Necropsy: "The right lobe of the liver is quite large and the left is small. On multiple sections the liver is studded with many gray-yellow, opaque nodules, some of which are necrotic and umbilicated. Just above the site of the gallbladder there is a diffuse gray-yellow mass about 10 cm. in its greatest measurement and very firm from fibrous tissue stroma. This region of the liver suggests the primary growth while the nodules scattered throughout the remainder of the organ appear as secondary nodules."

Microscopic: "Tumor nodules in the liver are composed of anastomosing tubules of low columnar, hyperchromatic, hypertrophied cells. Moderate amount of stroma. There is a rather marked inflammatory reaction in the stroma which contains also scattered cells which are apparently fragments of liver cords. The cells of the tumor mass have large nuclei and the cytoplasm is inconspicuous and clear. They bear no resemblance to liver cells but resemble the cells of the ducts. The surrounding liver perenchyma shows a marked pressure atrophy.

This is the only case in this series arising from duct cell epithelium. It was accompanied by cirrhosis. Metastases were present only in the lungs.

Case II. Autopsy R 35—1927: A white male of 57 was admitted to St. Joseph's Hospital February 2, 1927. He had developed a pain in his chest one month before and had been nauseated in the mornings for the past ten days. He did not vomit. During the past two weeks he had several attacks of severe pain in the abdomen. Past and family history was negative. Physical examination revealed a slight icterus of the sclerae, a friction rub in the right side of the chest posteriorly; tenderness in the upper right quadrant, and some enlargement of the liver.

The urine contained a trace of albumin. There was a slight polymorphonuclear leucocytosis. The icterus index was 100. The Van den Bergh was 15 units. The sedimentation time was rapid. X-ray revealed a small pleural effusion on the right side. He expired February 27, 1930.

Anatomic Diagnosis (B.C.R.) Primary carcinoma of the liver with involvement of the gallbladder wall; metastatic nodule in the lesser omentum with compression of the common bile duct; metastases to the retroperitoneal lymph nodes; passive congestion of the lower lobe of each lung; petechial hemorrhages of the parietal pleurae; fatty changes of the aortic intima; anthracosis in the peribronchial lymph nodes; ecchymotic hemorrhages at the base of the tongue, lining of the ileum, stomach and cecum; epitheliosis of the esophagus; superficial excoriation of the left side of the sacrum; venepuncture marks of the right antecubital fossa; needle puncture marks in the right midaxillary line; excoriation of the skin in the left anterior axillary line; general icterus.

Necropsy: "The liver is a tremendous large mass mottled with gray nodules and weighing 6000 grams. The omentum is tucked over the gallbladder and completely hides it. The wall of the gallbladder is tense, hard, and infiltrated with hard masses which are indistinguishable from the liver. Tremendous thickening of the gastro-hepatic omentum. Both lobes of the liver are pushing the diaphragm up. There are some adhesions between the gallbladder and the transverse mesocolon. On section about 90% of the liver is replaced by tumor tissue and the entire organ is bile tinged."

Microscopic: "Practically the entire liver tissue has been replaced by tumor tissue which is made up of cells which are rounded or polygonal in outline, in many cases rather small, elsewhere growing in cords, and rather faintly resembling the liver tissue. The stroma is poorly developed. There is no resemblance to bile ducts. Some areas are necrotic and others are deeply bile tinged."

This is the only case diagnosed antemortem.

The diagnosis was based on the rapid enlargement and enormous size of the liver. The liver was four times its normal size.

Case III. Autopsy R 2—1930: A white male of 81 was admitted to Douglas County Hospital December 19, 1929, complaining of inability to retain food of five weeks duration, and of loss of weight and strength for one year. Five weeks before he developed a distaste for food. Since then food has nauseated him and he frequently vomits after eating. He has also had a diarrhea for several weeks and passes three or four dark, foul stools a day. His symptoms have gradually grown worse, and now he takes only liquid foods. His past history contains nothing of importance. One sister died of cancer of the stomach. On physical examination the liver was found to be slightly enlarged. B.P. 160-70. The urine contained a small amount of albumin. X-ray of the G.I. tract is essentially negative while films of the chest reveal a cavity in the left apex, with some mottling in the right apex. He expired three weeks after admission. Anatomic Diagnosis (M.W.B.) Primary massive liver cell carcinoma; metastatic carcinomata of the lower lobe of the right lung; chronic pulmonary tuberculosis; general arteriosclerosis; hyaline perisplenitis; edentulous gums; papilloma of lower lip; sordes; general emaciation.

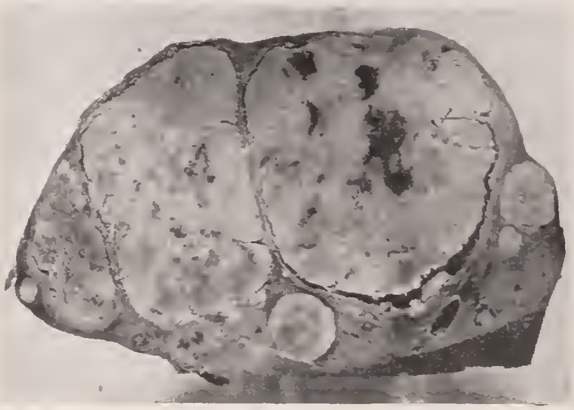

Fig. I. Primary Carcinoma of the Liver.

Necropsy: "The liver is large and extends well below the costal margin. In the midline, along the lower border of the liver, chiefly on the dorsal surface, there is a rounded mass which fluctuates, feels tense and is roughly sperical, yellow and about 10 cm. in diameter. There are three similar masses on the dome of the right lobe, and a smaller mass in the left lobe, with many much smaller and firmer nodules scattered through the liver. On section these masses are pale yellow, very soft and can be torn readily. The tissue drops out of the center of some of them, but does not seem necrotic.

Microscopic: "Paraffin sections of liver stained with H. and E. contain nodules which are composed of fairly large basophilic cells scattered through a delicate stroma. For the most part these cells have no definite arrangement. The nuclei are round to oval and granular. Nodules are not encapsulated. The surrounding liver tissue is compressed and atrophied. The nodule in the lung resembles those in the liver histologically."

This case was the only one of the series not accompanied by cirrhosis.

Case IV. Autopsy R 85—1930. A white male laborer of 59 was admitted to Douglas County Hospital April 6, 1930, complaining of weakness, difficulty in breathing, and pain in the abdomen. Abdomen was distended with fluid and 4300 cc were removed by paracentesis. X-ray films of the chest revealed a difusely widened aorta and mottling of both lung fields suggestive of active pulmonary tuberculosis. Six months previously he had been admitted to the hospital complaining of pain in the chest and of having spit up large quantities of blood. Impaired resonance was found over the left lung field. At this time the liver was palpable four fingers below the costal margin. Past history revealed that he had been a heavy drinker for many years and had sustained a severe head injury 30 years ago. He had had gonorrhea and rheumatism. The Wassermann was negative, as were other laboratory examinations. Family history was negative. Expired April 18, 1930.

Anatomic Diagnosis (M.W.B.) Primary multiple liver cell carcinoma; portal cirrhosis of liver; conglomerate miliary tuberculosis of left lung; fibrous pleural adhesions, bilateral; tuberculous ulcers of ileum with a single large ulcer of the ileocecal valve; ascites; diverticulation and trabeculation of the urinary bladder; splenomegaly with hyaline bodies in the spleen; brown atrophy of the myocardium; arteriosclerosis; general emaciation;

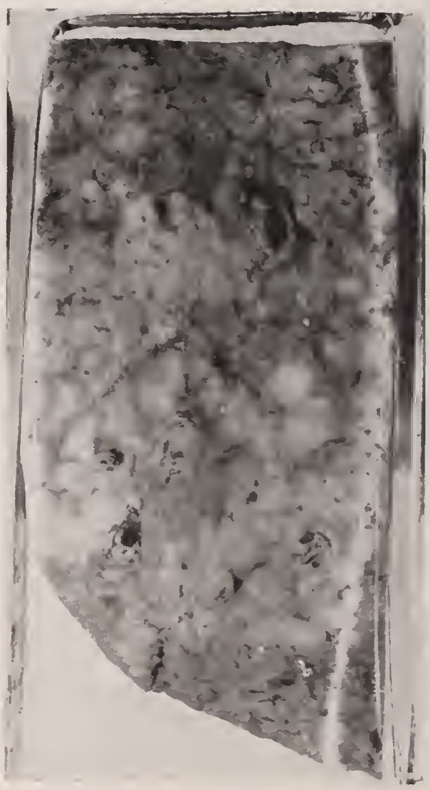

Fig. II. Primary Carcinoma of the Liver.

Necropsy: "The liver extends about 5 cm. below the costal margin. The surface of the liver is rough and nodular and has a pebbled appearance. On the diaphragmatic surface of the right lobe these nodules are yellow and stand out in sharp contrast to the brown of the liver. The under surface of the liver is also nodular and the caudate lobe is almost completely replaced by a soft yellow tissue. The left lobe is involved to a less extent. On section the liver substance is very largely replaced by nodules of a pale yellow tissue. This tissue is very soft, and the pressure of cutting through the liver causes it to ooze out of the larger veins. The portal vein is almost completely filled with this soft material."

Microscopic: "Paraffin sections of the liver reveal large nodular masses composed of basophilic cells with large nuclei and almost no cytoplasm. The nuclei do not stain very deeply. An occasional mitotic figure is found. These cells bear some resemblance to liver cells. The surrounding liver tissue is compressed. In some areas there are dense fibrous tissue septa. In several places there are large necrotic masses."

This case showed extensive vascular invasion, which is a rather characteristic finding. This case was also accompanied by cirrhosis.

SUMMARY

We encountered four cases of primary carcinoma of the liver in 1100 autopsies, an incidence of 0.36%. All four cases occurred in white males past middle age. Three cases were of the liver cell type and one of the duct cell type. Three were accompanied by cirrhosis. In this same series there were 48 cases of cirrhosis of all types, an incidence of 0.43%.

BIBLIOGRAPHY

1. Strong, G. F. and Pitts, H. H.: Primary Carcinoma of the Liver, Arch. Int. Med. 46:105, 1930.

2. Clawson, B. J. and Cabot, V. S.: Primary Carcinoma of the Liver, J. A. M. A. 80:909, 1923.

3. Smith, W. S.: Four Unusual Malignant Tumors of the Liver, Arch. Path. 1:365.

4. Beattie and Dickson: p. 814, C. V. Mosby Co., Third Edition.

5. Boyd, W.: Surgical Pathology, W. B. Saunders Co., p. 423.

6. Karsner, H. T.: A Clinico-pathological Study of Primary Carcinoma of the Liver, Arch. Int. Med., 8:238, 1911.

7. Quoted by (2).

A SKETCH OF THE LIFE AND WORK OF LEONARDO DA VINCI*

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Leonardo Da Vinci lived from about 1452 to 1519, just at the dawn of the great movement which, after a struggle of nearly 300 years, restored the intellect of medieval Europe to a level almost as high as that which had prevailed in Athens nearly 2,000 years before. Nearly every sphere of human intellectual activity was explored and enriched by his researches and he is gradually being recognized as one of the most astonishingly versatile geniuses that the world has known. While we as physicians are primarily interested in his anatomic and physiologic investigations, it is essential, in order to properly appreciate and evaluate his greatness, to mention at least briefly, his multifarious activities in other fields. Hemmeter has briefly summarized the activities of Leonardo in replying to a writer who sought to defend certain of his views concerning Leonardo by declaring that they were the result of a fairly close study of the principal literary remains of Da Vinci. Hemmeter states: "The fairly close study of the principal literary remains would take a competent master in *mathematics, engineering, anatomy, physiology, architecture, painting, sculpture* and *philosophy* approximately 20 or 25 years, depending upon the rapidity of mental comprehension of the investigator." His activities in the field of art need no explanation, for the fame of the master who gave the world "The Last Supper" and "Mona Lisa" will endure as long as the appreciation of beauty characterizes human emotions. One of his most scholarly treatises is on painting and art and he discusses the physics and physiology of color and perspective in a truly modern manner. While experimenting along these lines he discovered the principle and perfected the use of the camera obscura which some writers believe was discovered before him by Bacon in the 13th Century. His work in engineering and hydraulics not only dealt with the theoretical and mathematical aspects of the subject but were essentially practical in nature since he is said to have been in direct charge of the construction of the Martesana Canal in 1497, and it is stated that, "Milan owes no small part of the fertility and verdant vesture of her fields to the irrigation made possible by these water works." In his treatise he gives practical directions and mathematical proof for such procedures as the draining of swamps, irrigation of desert land and the construction of canals. Four hundred years after his death three other streams were canalized nearly as he had planned them. During the excavation of earth from the canals he is said to have become interested in and to have closely studied the various strata of earth; the finding of petrified mussel shells and plants encited him to geological studies which lead to "far-reaching theories about the structure of the earth." He is also said to have given "correct and almost modern explanations of the nature of petrification." His studies in the physics of inertia and motion lead him to discover the laws which later immortalized the names of Galileo and Newton. He was probably the first to appreciate the true nature of wave motion which he studied by placing floating objects in water and observing that they moved up and down as the wave passed them but did not progress with the wave. He postulated the similarity between the waves which spread out in circles around a pebble dropped in water and the waves of sound which move out in every direction from the point of disturbance. He studied and correctly explained the phenomenon of the echo.

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*Presented before the Salerno of The Mayo Clinic Club, Feb. 7, 1928.

The discovery of America, the violent controversies regarding the earth's true shape and personal acquaintance with Vespucci and Christopher Columbus, awakened his active mind to a keen interest in geography. He is said to have been so convinced of the spherical form of the earth that he believed that it would be visible to the unaided eye a few miles out at sea. He vehemently stated: "The earth probably appears to a human being on the moon or on a star like a heavenly body. To a man on earth the moon appears exactly as the earth would appear to an inhabitant of the moon. The earth is not situated in the center of the sun's orbit, and still less in the center of the universe. It is in the midpoint of the elements which have been assigned to it or are dependent upon it." Thus did he boldly hurl his clear scientific deductions into the face of medieval scholasticism. The challenge was answered but he escaped punishment by changing his residence.

The possibility of constructing a flying machine for human use is a problem which occupied much of his time. He studied the flight of birds with his usual care and finally undertook fairly extensive studies of the anatomy of birds with special reference to the osseous system, hoping by this to learn directly from nature the ideal manner of constructing his flying machine.

Many less important discoveries and inventions have been described by him. For example, he attached equal weights of cotton and wax to a small, delicate balance and thus invented the first hygrometer which he employed to forecast the coming of wet weather; the wheelbarrow, a spiral door hinge for automatically closing a door, looms, spinning machines, well boring machines, a steam cannon, an apparatus which permitted a man to work under water are among the minor inventions which have been attributed to his genius.

His studies in Botany are no less remarkable. The manner in which leaves are arranged in certain plants excited his curiosity and, after having carefully studied the matter, he advanced a theory for the peculiar arrangement which he substantiated by mathematical proof. He studied the reaction of injury and the reparative processes in plants and young trees: he noted the rings on tree stumps and was probably the first to point out that the number of rings corresponds to the age of the tree: he noted and correctly explained the uneven growth of the bark at certain points around the tree and for certain years —thus we might continue for an interminable length of time, tabulating countless natural phenomena which were noted, studied, experimented upon and explained, but enough has been said to give us a general idea of his remarkable versatility and we may now pass on to a consideration of his work in anatomy and physiology.

THE ANATOMY OF LEONARDO DA VINCI

Leonardo possibly began his anatomical studies in order to perfect his art. A great artist studying the human body in the nude will sooner or later attempt to correlate surface anatomy with the underlying parts. In Leonardo's time anatomy was in an unbelievable state of confusion; no such thing as systematic anatomy existed and the only books available were translations of Galen and Avicenna, whose anatomy was for the most part, based on animal dissections: even these were often incorrect because nature had been remodeled and improved upon in order to fit the teleological patterns of the authors. Leonardo realized the inherent errors in deductive philosophy when applied to natural science, and it is only natural that he should have turned to active dissection in order to secure the desired information, then unavailable. He began his studies with Marco Antomio Della Torre who is described as a gifted anatomist steeped in Galenic theurgy. Perhaps they began with Della Torre as teacher while Leonardo was to fill the double role of pupil and artist. In either case it is evident that Leonardo soon outgrew the role of pupil or assistant and began first-hand anatomical investigations on a grand scale. In 1516, when Cardinal Aragona paid him a visit, Leonardo prided himself on having made dissections of more than thirty human bodies. He also stated that each dissection of a given part was done twice in order to note variations. He is credited with having been the first to make topographical dissections and to use cross sections of the body. Many of his drawings illustrate first the gross part, and then the corresponding cross sections.

His studies of the muscles are especially fine. Hopstock states that he made models of the skeleton and represented the muscles with wires or tapes attached to the origin and insertion of the muscles and thus studied their action. How well he understood the mechanics of muscle action can best be illustrated by quoting some of his conclusions, which might well be taken from a modern text book of Anatomy; for instance, he states that when the knee is flexed the sartorius can give rise only to internal rotation of the leg and the biceps femoris to external rotation, on the other hand, when the knee is extended, rotation of the leg can occur only at the hip joint.

He further states: "Nature has attached all of the muscles which control the movements of the toes, to the bones of the leg and not to the thigh, because these muscles when the knee is bent, would, if they were attached to the thigh bone, contract and become locked under the knee joint and would not, without great difficulty and effort, be able to work the toes." He recognized also that the ulna is non-rotating in contradistinction to the radius which rotates about the ulna.

A large part of his work was devoted to the lungs and circulation. He knew and showed by drawings that the bronchi ramify and divide in the lungs and finally end in small blind tubes which develop vesicles when inflated. He argued against the accepted galenic teaching that air could enter the heart directly from the lungs, but he believed that it is the pulmonary arteries which receive the "freshness of the air" from the bronchi. He described and differentiated the external and internal intercostal muscles and recognized their antagonistic actions, stating that the internal are expiratory muscles while the external are inspiratory. His description of the diaphragm shows that he understood its function in a perfectly modern sense, he wrote concerning it: "It is shaped like a deeply hollowed spoon—if it were not so arched so that it could receive the stomach and other viscera into its concavity, it could not afterwards contract and exert pressure on the intestines, and drive the food from the stomach into the intestines, nor could it help the abdominal muscles expel the feces, nor could it by contracting enlarge the thoracic cavity and compel the lungs to expand so that they may inspire air to refresh the veins coming from the heart."

Some of his most brilliant and lasting contributions to anatomy appear in his work on the heart and circulatory system. Hopstock states that one-fourth of the material in the six enormous volumes which now constitute the quanderni, is devoted to the heart and the circulation. His keen searching mind was no doubt perplexed and baffled by the riddle of the circulation. At this point it may be interesting to transcend our general theme for a moment and to show how the ban of authority had spread its net and trapped even this independent thinker of the Middle Ages. Leonardo constantly wrote and talked against the then prevalent custom of accepting the work of Galen and others as the final authority. "To know is to see" was one of his favorite axions. It is stated that he was criticized at one time because he was unable, or did not, quote more extensively from the works of others. His answer to this rebuke would appeal to our most modern iconoclastic philosophers or scientists, he stated: "It is of greater value to cite experiment, the mistress of all masters, as an author; for he who repeats the assertions of others, plumes himself in foreign feathers." At another time he warned: "Beware of the teaching of those speculators whose beliefs are not confirmed by experiments." In spite of these clear-cut statements which show his tendency to believe only those things which could be proven by experiment or which he himself actually saw, he was led astray at a very important point in his work on the circulation by the windy, overconfident assertions of the teleologist Galen. You will doubtless recall that Galen's hectic theory of the circulation made it necessary for blood to pass from the left to the right side of the heart and that in order to accomplish this he was forced to invent one of his numerous myths, in other words, he postulated the presence of numerous invisible openings in the septum which separates the right and left ventricles of the heart; with each beat of the heart the requisite amount of blood was supposed to rush through these invisible, but highly effective pores. For some unknown reason Leonardo apparently accepted this explanation and while his drawings usually show the intraventricular septum as being solid, he at other times schematically indicates the position of these pores of Galen, which, however, he states are invisible. Many of his statements relative to the circulation of the blood are clear-cut and convincing and one is tempted to enlarge upon them and to accept them as proof that he had actually pierced through this enigma and understood the circulation. Most students of Da Vinci agree, however, that he did not accomplish this and it is entirely possible that he had unwittingly accepted just enough of Galen's dogma to prevent him from reaching this goal.

In his drawings of the heart he shows the wall of the left ventricle as being much thicker than the right. He emphasizes the fact that the heart must be considered as being divided into four chambers, and argues with those who recognized only two, i. e., a right and left. He very accurately described and drew the papillary muscles and the chorda tendineae and showed how the latter attached to the edges of the atrio-ventricula valves. He was the first to demonstrate the presence of the intraventricular moderator band which arises from the septum and attaches to the base of a papillary muscle. He believed that its function was to prevent over-distension of the ventricle. In 1908 Tawara showed that it serves as a bridge to conduct the fibers of the bundle of His from the septum to the papillary muscles. A modern anatomist has suggested that this structure be named after Da Vinci. He made many drawings of the aortic and pulmonary valves and he studied their form by pouring wax into them from above. He knew that their function was to prevent blood from rushing back into the heart, and from his mathematical-physiological studies he made calculations showing that the three aortic cusps are more satisfactory than four, for if their number were more than three then the angles would be weaker than those formed by three valves. He stated that "when the left ventricle contracts the blood passes through the aorta and the wave thus formed goes through all the arteries, and with the pulsation of blood in the heart which closes the valves, a tone is created in the heart and goes through every artery and which the ear often hears in the temples. When the left ventricle contracts the blood flows out into the aorta and its speed here varies proportionally to the caliber of the vessels. He stated that when the wave of blood enters the aorta, the central part of the wave is ahead of the sides, because part of the impetus of the latter dissipates itself by lateral motion. He was intensely interested in the movement of the blood in the heart and in the sinuses of Valsalva above the semilunar valves. By a very ingenious method he succeeded in making a glass cast of the heart and great vessels, through which he made studies of the currents of the blood as it enters and leaves the heart.

He discovered the nature of the origin of the heart beat, i. e., whether it is spontaneous or due to nerve impulses and he finally decided that it is of spontaneous origin within the heart, possibly because he had noticed that the hearts of lower animals continue to beat after being removed from the body.

Hopstock summarizes Leonardo's conclusions relative to the circulation of the blood, as follows: "At the contraction of the auricles the blood flows into the ventricles. At the systole of the ventricles the blood flows out into the pulmonary artery and aorta. By means of the pulmonary artery the blood passes from the right ventricle to the lungs, from which it returns 'refreshed' to the heart—by which vessels it is not stated. From the left ventricle the blood is driven into the aorta and from it into all of the arteries. Towards the skin it passes into the 'capillary veins.' Blood enters the right auricle by the vena cava."

In conclusion it may be interesting to recall an incident noted by Klebs, namely, that in 1902 an investigator by the name of Jackschath accused Vesalius of plagiarism from Leonardo. Nothing further has come of the matter and it is extremely unlikely that it is or can be proven to be true.

(To be continued)

THE PRESENT DAY SINUS TROUBLE COMPLEX*

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The post-war years have given abundant attention to mental complexes due to failure of individuals to adjust themselves to surroundings.

It appears possible that physical complexes might arise from failure of organs to adjust themselves physiologically to surroundings—I refer here to the paranasal sinuses.

When man first stood on his hind legs, the ostia of the sinuses were no longer in the dependant portion of the sinus, but were placed in a position least suitable for drainage.

This displacement from the original position was perhaps the inception of the complex arising within the sinuses. The character of the mucous membrane lining the sinuses, however, overcomes this condition in some degree—I make reference to the ciliated epithelium—the movement of the cilia acting as a barrier against invasion of the sinus mucosa.

According to Dr. James McDonald, professor of physiology at Creighton University, the movement of the cilia of the upper air passages is influenced by neural, chemical, and physical agents.

The neural control of the ciliary movement is through the sympathetic and parasympathetic nervous systems. Stimulation of the sympathetic nerves accelerates the ciliary movement. Stimulation of the parasympathetic nerves retards the ciliary movement. This is said to obtain independent of the vascular system.

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*Read at the Middle Section of the Laryngological, Rhinological and Otological Society, held at Rochester, Minnesota, January 21st, 1930.

Stimulation of these nervous systems come from within. The endocrine system supplies the sympathomimetic and parasympathomimetic chemicals.

Physical agents effecting the ciliary movement are: Moisture, lack of moisture, and cold.

Ciliary activity is completely dependent for function upon a surface film of moisture retarded and then paralyzed by dehydration. The effect of cold in slowing and finally paralyzing the action of ciliated epithelium was fully verified by McDonald.

Excess of moisture modifies the extent and direction of ciliary propulsion, by causing gravity currents which flow above those cilia produced and in a direction determined by the shape and position of the part.

When man, in an attempt to protect himself against the elements, built houses and in turn installed heating devices in these houses, the sinuses were once more put in different surroundings.

The modern house, so well supplied with heat, frequently to the extreme, is unfortunately lacking in moisture. The evaporation of a large quantity of water daily is absolutely necessary in maintaining sufficient humidity. The average heating plant is not provided with the proper equipment for this evaporation. This fact has been proved by hygrometeric readings made in many homes in Omaha.

Lack of moisture in the air produces a drying of the surface film of moisture on the cilia and consequently retards their motion. This, I am convinced, is a very frequent cause of sinus trouble, especially in young children, who spend much of their time in-doors. Here a golden opportunity awaits the heating expert.

It has been known for a long period of time that the incidence of common colds is in proportion to the temperature of the weather—that is, many more colds occur in cold weather. The same holds true for sinus trouble.

Here again we have the cold retarding the ciliary movement. The amount of moisture in the air decreases in the lower temperatures. At 30 degrees below zero the air contains no moisture. With the extremely low temperatures, experienced here abouts, the cilia are probably paralyzed.

Just what effect the sudden variation of temperature has upon the ciliary movement has not been worked out, but in this part of the country where abrupt transitions are the rule, sinus trouble is very prevalent.

SINUSES AND EMOTIONS

Whether due to a paralysis of the sympathetic, or stimulation of the parasympathetic causing a retardation of the ciliary movement; or vascular changes in the nasal and paranasal spaces due to improper action of the autonomic nervous system; or a combination of these conditions, we find a large number of self-diagnosed sinus trouble patients.

They present themselves with the history of symptoms similar to Mrs. So and So who has sinus trouble; with the consequent conviction they have the same trouble.

Nasal stuffiness, headache and lethargy are the chief symptoms complained of. The headache is of different types and location, but is most frequently the tight-band headache localizing in the occiput, or the lower half headaches of the Sluder type.

Examination of the nose discloses an engorgement of the turbinates and a dry mucosa. The engorgement shrinks readily upon application of a weak solution of cocaine. Further examination reveals no hypertrophies except possibly the posterior ends of the middle turbinates. Sometimes a slight clouding of the sinuses is seen upon transillumination.

If one has the misfortune to see one of these patients after she has run the gauntlet of rhinologists, which they usually do, the symptoms are the same or exaggerated, but the picture is different.

One usually finds a large opening into each maxiliary sinus beneath the inferior turbinate. The middle turbinates and ethmoid areas are replaced by pale shining scar tissue, and one may be looking directly into the sphenoidal sinuses.

By this time the patient is accused of acting queerly. This is actually a sinus complex exaggerated by too zealous surgery. These sufferers are finally turned over to a neurologist for a nervous break-down, anxiety neuroses, or "what have you".

A condition simulating this emotional sinus trouble complex is found in individuals who have a lack of tone of the blood vessels due to physical causes. These persons lack the neurotic taint and suffer from sinus headache of the vacuum type—vaso-motor, so called. Then there is that large class of sinus patients who are allergic, usually diagnosed hyperplastic sinusitis. They are definitely a complex due to changes in our mode of living.

Another type of sinus trouble complex is found in the profession among those most intent on searching the deepest recesses for a streptococcus that is causing this and that.

A patient has had tonsils and teeth removed. The gastro-intestinal tract is negative—possibly the maxillary and frontal sinuses are clear on x-ray, but there is a slight shadow in the ethmoid area. The rhinologist may or may not be induced to exenterate the ethmoid labyrinths. I do not wish to speak lightly of the focal infectionist, but I do believe the end result should justify the means and destruction of the nasal and sinus mucosa with the cilia is a serious procedure. The diagnosis should be more than problematical before this destruction takes place.

One does not wonder at the statement of the laity:

"Don't have your sinuses operated. I know Mrs. So and So, and she is worse than before her operation". And again, when advising operation on a patient with a chronic empyema of a sinus, one hears: "Doctor, I won't undergo a sinus operation. I know so many who were operated and not improved."

I recently heard a rhinologist read a paper on sinus infections in which he claimed that he obtained the best results from operations on what he termed chronic hyperplastic sinusitis, or chronic latent sinus disease.

This statement does not agree with my observations, inasmuch as I have always felt that the chronic empyemas responded to drainage by operation more readily than the other types of infected sinuses, and so a complex arises among rhinologists.

In conclusion allow me to say that the sinus question today seems to be complex, but let us not be too hard on the poor old sinuses. They have had a difficult time up through the ages.

I do not advocate putting them back in their original position but something can be done to put them in more desirable surroundings, and we can have a wholesome respect for the ciliated epithelial lining of the nasal sinuses and lateral wall of the nose.

GRADING DOCTORS*

ALFRED E. REEVES, M. D.,
Farnam, Nebr.

Ladies and Gentlemen: Your president, assuming he is a privileged character, is presenting for your consideration this paper, and these thoughts, which are not of the regular program. My reason for doing so at the present time, instead of at the annual meeting, is that you may think them over and be in a better position to take action at that time, provided they meet your approval.

You perhaps read in a leading daily recently, an editorial on the problems of the country doctor. That editorial was very timely, and very much to the point. I would like to present my views, experiences, and what I think would be a cure for this problem. We who are present will all qualify as country doctors. These problems apply directly to us, but I will venture our distinguished guest from the city will agree that they also face about the same proposition we do in the rural districts.

"Why is the country doctor vanishing?" has been asked all over the country. A survey of the eastern states proves he is gradually disappearing. The circumstances and solution is very simple. The automobile, and good roads has made the ruralite easily within reach of the larger towns and cities. Often he is under the impression the city doctor has more knowledge, better skill, and therefore he will secure better services for his money. This may or it may not be true.

Educate the public to patronize home talent and industry is the cry all over the land; we doctors too have been preaching it for years. It is now high time we were turning the searchlight of public sentiment and investigation within our own ranks, and try for a while to educate the doctor. Perhaps the public will then be enlightened somewhat.

May I illustrate a situation which exists in practically every town in the country, where there are located two or more doctors. Let us call them Dr. A. and Dr. B.

Dr. A. graduated from a good four year college, say twenty-five years ago went to his present location, and has been there ever since. He has tried to keep up to date, taking research, and postgraduate work in this country and perhaps abroad. He is having a measure of success, as witness his fine office, and perhaps hospital, modernly equipped with everything for the treatment and comfort of his patients, and the normal degree of success attending his work.

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*President's address Dawson County Medical Society, Cozad, Nebr., October 10, 1930.

With all this outlay of energy, time, and money he finds business not increasing, and worse than that, it is slipping. He knows gradually increasing numbers of the people of the community are being sent away, and are going elsewhere, to distant towns and cities, for work he is well qualified to do. It is an almost mortal blow to his pride and ability. He is now confronted with one of two courses to pursue.

Dr. B. the competitor (we can not call him a colleague) graduated perhaps twenty-five years ago, has changed locations several times (which is no reflection whatever). He has a small ill-kept office, employs no office help, keeps no records, and has not a modern piece of furniture or equipment in his place. He has never taken a postgraduate course in his life, never intends to; does not attend medical societies outside of perhaps his own county. He is a fine fellow, a good mixer, good personality, and gets his share of the work, especially minor ailments. It is no blow to his pride for his patients to go elsewhere. In fact deep down he knows they should do so. His living expenses are not high, he spends no time away on vacation or recreation. He will never refer a patient to Dr. A., but always to some man in the distance. If people are ill they call in another doctor; if a bad injury or fracture they go to Dr. A. Frankly, they tell Dr. A. that they go to Dr. B. because he is a good fellow and is cheaper in charges and when minor ailments they call him. Hundreds of our best doctors are facing this issue today.

As I said before, they tell us to educate the people, I thoroughly agree. But what are we to do while they are being educated? We can not maintain our standards of living and service, and compete in price with Dr. B. and his shoddy service. So we are back again to the only two avenues open to us; viz, go where the patients do, or lose our grip and slip to the level with our competitors.

The remedy: Only a few years since the profession was confronted with a host of inferior medical colleges and diploma mills. Every little city had one or more. They were turning loose, yearly, hundreds of incompetent doctors. Something would have to be done or the profession disgraced. Figuratively speaking, the American Medical Association, together with the state associations and better class of doctors co-operating, rolled up their sleeves and operated on the case. Today it is a disgrace to graduate from other than a class A medical college, in fact there are few if any in existence.

The idea has long been promulgated to educate the public; why not educate the profession? After the degree has been conferred, we have no means of compelling men to keep up to date. A rotten apple in the barrel will spoil all the apples with which it comes in contact. A doctor who is constantly slipping contaminates all the territory around him. Yesterday one of our merchants stopped me on the street and said he had a car of fruit on the track. Grade A pears were $1.75, Grade B were $1.50, and Grade C were $1.25 the bushel. We graded our colleges and raised their standards. We grade our school teachers and compell them to teach as per their graded qualifications. Why could we not grade our doctors? It appears to me if the matter were taken up by the American Medical Association, promoted by the State societies; a questionaire covering the alma mater, post and research work, medical societies, journals, equipment, etc., would enable the Department of Public Welfare to issue certificates of class A, B, or C. The publicity attended with so doing would soon put each of us in the classification in our community where we belong. To wait for the laity to be educated is driving the best doctors from their rightful surroundings, their homes and investments, crowding the cities, and depriving the rural folks of services they should have.

At the last meeting of the Nebraska Section of the American College of Surgeons, it was recommended that in order to qualify as a surgeon doing major work, it be necessary to spend at least five years in general practice. So you see in every other branch of medicine steps are being taken to better the profession. Why not some means to better the country doctor? The vanity of the public, if nothing else would compell them not to employ a second or third class doctor, and in a very few years would relegate these classes to the dump heap where they belong.

TALE OF A TOOTH

Chinese patient (on telephone): "Doctor, what time you fixee teeth fo' me?"

Doc: "Two-thirty—all right?"

Chinese: "Yes, tooth hurty me all right, but wha' time you fixee?"—Pointer.

TRANSPOSITION OF THE VISCERA

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The man whose fundamental arrangement of anatomy differs markedly from that of his fellow men, is the object of much morbid curiosity and is endowed with a certain amount of distinction. Anatomical freaks and anomalies have fascinated medical men for centuries, down through the dark ages of ignorance and superstition to the advent of scientific embryology and histology. Heterotaxy, or situs inversus viscerum is the term applied to the developmental abnormality in which the viscera normally occupying one side of the body are found on the other. The transposition may be total, giving a mirror image of the contents of the great body cavities, or partial, with one or more of the viscera above or below the diaphragm involved.

Aristotle observed and recorded two cases occurring in animals. During the middle of the sixteenth century Gemma reported what is said to be the first case in a human being. Fabricus reported another in 1606. Some thirty-seven years later Servius reported a case, and Riselanus reported one in 1649(1).

In 1824 the first clinical recognition of transposition of viscera was reported, and in this same year, the importance of percussion and auscultation as aids in recognition of this condition were discussed at great length(2).

During the Civil War there appear to have been reported 79 cases, of which number only six were discovered during life(3). A few years later, in 1897, the Roentgen ray was utilized in the study of this condition, and more recently still the electro-cardiograph has proved to be a most valuable aid in the perception of such transposition in the living. That these are of definite aid is borne out decisively by recent statistics on the occurrence of this anomaly. In 1902, 49 cases were reported, of which 40 were discovered during life, convincing testimony as to the importance of the x-ray and electro-cardiograph and a pleasing evidence of the growing diagnostic sagacity of modern clinicians. Formerly these reports came from the anatomical rooms and pathological departments, while the recent ones are coming more and more frequently from the clinician. Up to 1924 there had been reported about 270 cases, but so great is the increase in the discovery of transposition of viscera that during recent years it has become of immense importance and significance to the clinician and surgeon. It has been estimated that transposition of viscera occurs approximately once in 5000 autopsies and about once in 35,000 examinations.

This anatomical peculiarity led to the advancement of numerous theories of causation, none of which has been definitely proved. It is possible that the determining factor arises from the changed position of the primary cardiac tube in early embryonal life. This position is undoubtedly one in which the right side instead of the left lies closer to the supply of blood. Whether or not the growth of the liver bud holds the secret is still unknown, but experimental work seems to indicate this. While the theories of the causation of transposition of viscera, total or partial, are abundant. the true cause will probably remain obscure until some logical and conclusive reason for the normal position of the viscera is determined.

There are, in the main, four recognized groups of transposition of viscera, which are:

1. In which all the organs are transposed.
2. In which the heart alone is transposed.
3. In which all the viscera are transposed except the heart.
4. In which there is complete or incomplete transposition of the viscera, with or without cardiac involvement, associated with the various congenital lesions of the heart and great vessels.

Following is the report of two cases of transposition of viscera, one complete and one incomplete.

Case 1. Mrs. S. I., age 21 years, apparently in excellent health. She had missed her last menstrual period and believed she was pregnant. Her family history was negative. Her past history was negative also. She had apparently enjoyed unusually good health throughout her entire life.

Upon examination a mass was palpated in the left upper quadrant. This mass could be easily outlined and extended from the left costal margin down into the umbilical region and from a point corresponding to the anterior axillary line laterally, and to the midline medially. To the right of this was a small area which was tympanitic. Further questioning brought out that the patient had noticed this mass during the past three or four years, and that she thought it responsible for her inability to ingest any great amount of food at one time. It was found that she was able to take eight ounces of fluid only with considerable difficulty, complaining after five ounces that she felt full and could take no more. Her blood work, including total red and white, differential and hemoglobin estimation, was normal.

Urinalysis revealed the presence of sugar; this she ran constantly. Examination of the chest proved negative. The viscera were apparently normal as to function and location. Fluroscopic examination negative.

She was referred for a gastro-intestinal series, but she refused to have this done. A month later she returned with symptoms of an acute appendicitis, excepting that the point of maximum tenderness was on the left of the mid-line. An exploratory operation was advised and at operation an acutely inflamed appendix was found in the left umbilical region. Further exploration revealed the spleen on the right side. The mass which had been previously palpated was examined and found to be the liver. This was in the left side resting upon the pancreas, and bound quite firmly by a great number of adhesions. Her recovery from the operation was uneventful.

Case 2. Mrs. D., age 36 years, presented herself, complaining of a persistent cough. Examination of the chest, including a fluroscopic examination, revealed a dextra-cardia. No doubt the right lung contained two lobes and the left three.

Below the diaphragm the liver was palpated upon the left side. The spleen was felt rather high up in the right hypochondrial region.

Some months later she was operated for appendicitis. The appendix was found on the left side, and further exploration revealed a complete transposition of abdominal viscera.

CONCLUSIONS

1. One case of complete transposition of viscera and one case of incomplete transposition of viscera are reported.

2. In the incomplete transposition, the transposition of the liver resulted in a disfunction of the pancreas.

3. Transposition of viscera is not as uncommon as one is lead to believe by perusal of literature.

4. A careful routine physical examination of all patients may reveal more cases of transposition of viscera.

5. Transposition of all the viscera does not effect longevity or health.

MYOMA OF STOMACH: REPORT OF UNUSUAL CASE

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Mrs. A. W., aged 44, presented herself for examination April 15, 1929, complaining of weakness, and gave the following history:

Past history: No serious illness. Menses began at 13, always associated with pain. Married at 23, three children. Lacerated with first baby. Hot flashes for a year. Menstrual flow varies in amount. Has had a goitre for seven years. No symptoms. Is a Christian Scientist.

Present illness: Began 5 years ago with attacks of weakness and unconsciousness, following the death of a daughter. Involuntary urination during attacks. Hands twitch as a warning. Thinks she can avoid attacks by eructation of gas. Appetite poor. Irritable disposition. Cannot eat greasy foods which produce distension. Lives on fruit and vegetables. No urinary urge but at times involuntary. No aches nor pain admitted except when wears a corset has uncomfortable feeling upper right abdomen. Denies mental depression.

Present examination: Well-nourished woman, facies despondent. Color muddy. Mouth and throat negative. Large adenoma thyroid B. M. T-7. Heart and lungs negative. B. P. 90/60.

Abdomen. Gastric gas. Tender over appendix and gallbladder. Movable tender mass upper right abdomen in region of kidney which extends down to right flank and back. Moves on inspiration and reaches mid-line with patient in lateral position. Following day mass below unbilicus.

Vaginal: Relaxed perineum, lacerated cervix. Tender both parametia. Uterus mid position. Ovaries not felt.

Rectal: Negative. Reflexes and glands O. K.

Lab.—Blood: Hb. 85%, R. B. C. 4,100,000, W. B. C. 8,000.

Urine: Negative. Wassermann: Negative.

X-ray: Gallbladder visualized small, does not empty after fatty meal. Stomach normal. Colon: Small diverticuli descending colon. Colon crowded to left by mass. Kidneys: normal in outline and position.

CLINICAL DIAGNOSIS

Abdominal tumor, probably epilepsy.

Adenoma thyroid: Chronic choleciptitis.

Operation: April 25, 1929. Local anaesthesia. Right rectus incision—mid position. Free blood and clot over mass right kidney region which is attached by 1½-in. base to the anterior wall of the pyloric end of the stomach about 2 inches above pyloris. In delivering the tumor the gastric attachment was torn slightly and bled profusely. The attachment was rapidly dissected free from the stomach with the finger and extended to the gastric mucosa which was not injured on freeing the pedicle. Stomach wall closed by two rows of sutures. Patient made an uninterrupted recovery and returned home on the tenth day. The mass weighed 3¼ lbs., was irregular in outline. The surface was roughened by ridges and small nodules. A few small serous covities and a number of excavations, probably the remains of ruptured cysts. The general color was white. The vessels were dilated and there were many areas of subperitoneal hemorrhages, consistancy that of a hard rubber ball. The attachment to the stomach was by a base 3/4 in. in extent. No pedicle.

Microscopic diagnosis: Myoma. Dr. James Ewing, New York.

COMMENT

The interesting features of this case are:

1. That a tumor of this size arising from the stomach would produce so few symptoms. All gastric symptoms can be attributed to the chronic cholecystitis.

2. The ease with which this neoplasm shelled out from the wall of the stomach.

"I hear that when Jones was in the hospital he had to have two nurses day and night."

"Yes, his wife wouldn't trust him alone with just one."—*Colorado Medicine.*

"I am sorry," said the dentist, "but you cannot have an appointment with me this afternoon. I have eighteen cavities to fill." And he picked up his golf bag and went out.—Juggler.

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PRIVATE GROUP CLINICS

A study of private group clinics in the United States made for the Committee on the Cost of Medical Care has been issued and therefrom we gather that there are approximately 180 such clinics with a total medical personnel of 2,000. The majority are in the middle west. The capital investment in plant and equipment excluding hospital facilities, by those reporting, is $10,000 per practitioner and the average investment in medical equipment and apparatus is $3,600.

The distribution of the various specialties among 50 clinics was as follows, indicating those groups in which each specialty was represented by at least one practitioner: internal medicine, 50; surgery, 50; eye, ear, nose and throat, 46; obstetrics, 37; urology, 35; pediatrics, 30; x-ray, 27; pathology, 26; dentistry, 17; gynecology, 17.

The most striking development in group clinics is said to be the business office handled by an employee who has charge of all financial dealings with patients.

"According to statements by forty-two clinic managers, clinic fees appear to be regarded by the general public as neither higher nor lower than those of local doctors in private practice. Twenty-one managers say their fees are about the same, eight say they are higher and thirteen that they are lower than those of independent practitioners.

"The practice of the typical private group clinic is essentially local. The majority of patients, managers say, are persons of moderate means, with a considerable number who might be classed as well-to-do, and a few others who are very poor.

"Data were received from twenty-seven clinics regarding gross and net income per practitioner. Gross incomes ranged from $10,708 to $25,606, and net incomes from $5,960 to $17,449. The average gross income for each of the 314 practitioners was $14,908, and the average net income, $9,747."

The conclusions drawn by Mr. Rorem from his study embrace the following:

"I. Group clinics are in direct economic competition for the medical service which constitutes the major portion of the practice of independent practitioners.

"II. The economic success of group practice depends upon the degree of utilization of the capital investment and of the time of the individual practitioners. The medical service of a clinic cannot usually be adjusted to the convenience of a patient as easily as can the services of an independent practitioner. Where, however, a patient requires the services of several specialists he can probably obtain treatment with less inconvenience and expense at the office of a clinic than from separate practitioners.

"III. The members of private group clinics generally make an effort to maintain a personal relationship between physician and patient.

"IV. The volume of medical service carried on by a private group clinic makes possible the establishment of a specified maximum fee for difficult individual cases and for complete annual service to groups of patients.

"V. Clinics have in general provided net incomes and working conditions for physicians which make possible the continued development of group practice. The removal of financial and administrative responsibilities from the individual clinic practitioner has made him more completely available for professional service, and has, in some clinics, increased his opportunities for scientific research and development.

"VI. The employment of business managers has usually resulted in increased administrative economy and efficiency. The establishment both of fees and of collection policies is based upon financial data obtained through conventional business methods. Inasmuch as the financial status of a clinic patient is usually investigated, group clinics probably perform less 'free service' than would an equal number of independent practitioners doing the same volume of work.

"VII. Private group clinics, through their available equipment and their co-ordination of medical specialists, are in a position to fulfill the basic requirements of good medical care with economies from which either or both the clinic members and the public may benefit."

SURGICAL THERAPEUTICS

Surgery is participating more and more in the treatment of so-called medical disease. It is the characteristic and dominant note in contemporary therapeutics. This participation is extending into all branches of pathology—principally into the maladies of the digestive system, but also into those of the respiratory system, of the circulatory system, of the nervous system, to tumors of the endocrine glands, hypophysis, supra-renal and thyroid. It is the duty of the physician before recommending a surgical procedure to make an exact and complete diagnosis and on the other hand it is no less his duty to study and set forth the contra indications to an operation, although it may be justified in principle.

To this end the clinical status of the patient must be determined, his degree of resistance, the condition of his heart, of his blood vessels, etc.; but still more all necessary laboratory researches to complete the diagnosis and to establish the patient's functional capacity; that is to say that in each case one should not neglect to examine the urine, the blood, and to measure the arterial tension. It would be culpable to recommend an operation on an individual presenting a serious anaemia, a marked azotemia. advanced renal disease, a high arterial tension, a leukemic blood picture.

It may be proper when in spite of the evident risks, these should be brushed aside if the life of the subject is in imminent danger because of the presence of a strangulated hernia, an acute intestinal obstruction, a perforated gastric ulcer. In parallel occurrences the friends or family of the patient should be informed of the seriousness of the situation and one should not neglect to ask for a consultation with a colleague in order to further establish the correctness of the contemplated operation and to divide the responsibility.

The technique of the surgical procedure must be left to the judgment of the operating surgeon. This general outline of a medical man's opinion should be in direct accordance with that of a surgeon; for a fact, the difference between a physician and a surgeon is the application of therapeutics. Their diagnostic opinions upon so-called medical diseases that admit of surgical therapeutics should have a parallel basis. The urgency of an operative procedure may not at the moment admit of preoperative bolstering therapeutic aids, but when possible before, during or as early as practicable after the operation resort should be had to appropriate means to correct what were the most menacing contra-indications to surgery—a blood transfusion, or one of the emergency substitutes, as Normet's solution, a gum acacia solution, normal salt solution with glucose, etc.

Lyon, whom I have quoted so liberally, taking upon himself what he considers the duty of the physician emphasizes that in cases of extreme urgence, in the absence of an absolute contra-indication, the physician ought to take all the responsibility, in instances where the helplessness of all medical means are clearly recognizable—as examples, when a radiological examination and other complementary efforts have demonstrated an operable cancer of the stomach or intestine, or a biopsy has determined an ulcer of the tongue to be cancerous, it would be almost criminal to dissimulate the diagnosis and advise expectant treatment.

The duty of the physician then is to inform the family that the affection is one incurable by medical means, that as little delay as possible should follow before resort to surgery which offers the only hope. Too much optimism should not be displayed but a fair statement of facts based upon statistical experience should be explained, so as to place the particular case in as honest and hopeful a position as the circumstances warrant. Three relatively recent experiences of the writer, where the different physicians in charge procrastinated in urging, demanding in fact, surgery, the only hopeful treatment and almost positively life saving in these instances, thus these very important and valuable lives were sacrificed.

I want to recommend to physicians particularly a little book by Professor Gaston Lyon on "New Therapeutics", from which I have gathered and added my own thoughts and experiences in what I have written.

—J. E. Summers, Omaha.

CALIBRATION OF HEMOGLOBINOMETERS

The medical literature of the past decade has shown with increasing frequency that the measurement of hemoglobin is often notoriously inaccurate. We are accustomed to speak of the hemoglobin content of the blood as being a certain percentage of the normal, and often do not recognize that the normal or 100% value used by various clinical instruments varies from 13.8 to 17.4 grams. It is not at all uncommon to find clinicians or clinical laboratories differing by as much as 20% in the "hemoglobin percentage." Or a new hemoglobinometer is purchased, and the clinician finds that he has to adjust himself to a new set of "hemoglobin percentages." On his old machine the normal was 80% while now it is 105%.

To some the easiest way out of this confusion is to disregard the hemoglobin determination or say, "it is good enough for clinical purposes." Those who wish to know whether their hemoglobinometers are within 5% of the true normal values must at present go to laborious devices to calibrate their instruments.

During the past two years the Department of Clinical Research of the University of Nebraska College of Medicine through the work of Dr. J. D. McCarthy has become increasingly aware of the difficulties that beset the individual clinician who wishes to calibrate his hemoglobinometer. The checking of a hemoglobinometer against the Van Slyke oxygen capacity, or the Osgood-Haskins acid hematin method requires equipment and training which are not always accessible. So far as we know, manufacturers have not offered to calibrate such equipment.

The Department of Clinical Research is keenly aware of the value of a uniform standard for hemoglobin values and is willing to cooperate by offering to calibrate free of charge, except for transportation and insurance, hemoglobinometers in use in the state of Nebraska. Such instruments should be sent to the Department of Clinical Research, Unversity of Nebraska College of Medicine, Omaha, Nebraska, prepaid with return postage included. The instruments should be carefully labeled with the owner's name, date of purchase, and whether any alterations or repairs have been made. A chart will be furnished giving the grams hemoglobin per 100 c.c. of blood corresponding to the markings on the instrument, and tables will be provided converting these values into percentages according to various so-called "normal" systems.

Certain hemoglobinometers such as the Tallquist depend so greatly on individual training, mechanism of drying of the clot and the like that their calibration would have little significance except when the individual himself is checked at the same time.

If there is a persistent demand for such a calibrating service to the physicians of the state of Nebraska it may be possible to continue and possibly extend this as a permanent service. The Department's immediate interest is to collect more data on clinical hemoglobin standards.

—**F. LOWELL DUNN**, Omaha, Director.

"WHAT PRICE GLORY"

At the last two State Medical Association meetings there has been enacted a travesty on the good name of a famous investigator, of the State Association, and of recipients of the doubtful honor of a Noguchi Medal. Since this offense has been repeated and threatens to continue indefinitely, it seems time that some publicity be given to the facts of the situation.

This "honor" is bestowed by a local chapter of an undergraduate medical fraternity. A distinguished name has been borrowed, probably without authority, to lend distinction to the gift. The officers of the State Association, for no apparent reason, have permitted the presentation at the annual banquet, and with such eclat as almost to eclipse the presidential address. The assembled members and guests have tolerated this intrusion, some with applause but many with resentment and criticism.

The propriety of the whole affair is rather questionable. It would seem that an undergraduate fraternity should confine its activities to its own sphere, which at most is within the college of which it is an insignificant part. The title of such an honor should be confined to some revered faculty member with whom the students have had intimate contact. The State Association should not lend itself and simulate responsibility for this undergraduate activity. And finally it is questionable if a qualified recipient can be found annually to perpetuate a medal "for outstanding activities in Nebraska Health".

No reflection is intended upon those who thus far have received this "honor". Their excellent work in public health and their honored standing in the medical profession add luster to the medal.

One wonders, however, if they as well as others have been fooled by the place and formality of the presentation.

—**J. JAY KEEGAN**, Omaha.

THE PUBLIC VS. BLACKSTONE AND HIPPOCRATES

The cry of "Racketeer" will not solve the malpractice hazard for doctors of Nebraska.

Strange, is it not, that professional men who claim a high standard of scientific accomplishments, should close their eyes to the value of *prevention* of malpractice suits.

I tried to develop this policy of prevention while acting as a member of the Committee on Medical Defense and received little or no support, and some definite obstructive tactics were employed by political dictators. It cost me about $1,500.00 in money and lost time in a hopeless endeavor to elicit some interest in the subject of prevention of malpractice.

I do not believe that the medical profession should imply that the legal profession is responsible for the increase in malpractice suits. It is suicidal silliness for the medical profession to charge the legal profession with "racketeering". Idle, thoughtless and imprudent statements will never solve the problem of malpractice.

Negligence in law is doing something that a reasonably prudent person would not do under the circumstances, or failure to do something that a reasonably prudent person would do under the circumstances. There is no reason why any physician should not be able to understand and be governed by this requirement which guarantees absolute protection.

The perpetuity of the social order is dependent upon medicine and law. Human rights and human health are the foundation of society. The first purpose of medicine is the maintenance of health. The first purpose of law is the maintenance of human rights. And there are no equivalents to take the place of either. This is a responsibility of incalculable proportions. I am of the opinion that the individualistic attitude of both medicine and law must be abandoned. The endless repetition of cause and effect has increased the complexity of the social order. Industry long ago was compelled to discard individualism and has reached its present gigantic state by cooperative effort and the coordination of various units to prevent waste and resulting loss. Neither law nor medicine have a board of directors, nor other coordinating heads, but depend upon each individual of the profession to recognize his responsibilities and limitations. The pressure of the modern economic environment is too great for individual resistance.

Each social, educational and economic experiment has added to the already heavy burden of law and medicine. With each new sociological and humanizing effort of society the interdependence of law and medicine becomes greater.

No prudent doctor will attempt to practice medicine without a legal counsellor. The legal intricacies of contracts, human rights and statutory prohibitions which are involved in the relationship between doctor and patient, doctor and business associates and doctor and government are legal matters which require guidance by those trained to guide in such matters.

In all matters which directly or indirectly involve questions of health or disease, the lawyer is dependent upon the doctor. Modern social experiments have produced a maize of cross currents involving health, disease and personal rights which bids fair to put both law and medicine to the acid test. It has become fashionable to propose panaceas for the smooth running of these cross currents. There is no panacea. Science has worked marvels and will be of value, but the net result of science in the past has been to complicate medical and legal problems.

The mental mechanism of the lawyer when confronted with a legal problem does not differ materially from the mental mechanism of the doctor when he is confronted with a medical problem. The lawyer utilizes science and other available means to ascertain facts, to determine what the remedy is, and if there is none, he endeavors to create one to relieve the condition. The doctor does the same. A medical case, generally speaking, is restricted to the body of an individual, while a legal case, generally speaking, embraces some unit of the social order. A diseased individual is a concrete thing. The right which has or has not been molested is an abstract thing. The doctor, whether at the bedside, the office or the hospital is his own trial court. He is the fact finding agency, his own interpreter of the facts, and his own administrator, and applies his own remedy. Doctors are quite apt to become medically minded and often in their enthusiasm or search for medical knowledge ignore, or at least fail to recognize, technical abstract legal rights of their patients. The lawyer, having ascertained the facts, and having selected a remedy, must submit his facts and remedy to a distinterested third party, the trial court, where a decision is made, whether or not his remedy is proper and how and when and where the remedy shall be applied. The doctor is the whole court. The lawyer is an officer only, of his trial court. Custom and years of precedents, training and hereditary concepts have fitted the lawyer for his method of seeking and applying a remedy for his client. Custom, training and hereditary concepts, have not fitted the doctor for the lawyers method.

Both medicine and law have common general attributes, problems and responsibilities. Lawyers and doctors, in their respective professions use materially the same process in seeking facts and remedies. But the trial court which is the work room for the lawyer is a foreign work room for the doctor and will be for many years to come. The doctor is dependent upon the lawyer for the safety of his legal rights. The lawyer is dependent upon the doctor for his physical well being and safe guarding of the medical rights of his client, in all matters pertaining to health and disease. Therefore, it would seem that it would be to the mutual benefit of both professions to undertake the joint enterprise of developing a clearer knowledge of the problems of both and to foster cooperation in not only strictly technical professional activities but also in the broader general problems that both professions have in this materialistic and commercialized age.

Doctors cannot be made something else and still be doctors, but doctors can be made to have a better understanding of legal formalities and the value of personal rights of the individual. Lawyers cannot be made something else and still be lawyers but lawyers can be made to understand the medical man's problem and the fundamentals of medicine. They should be teachers of each other, to the end that both professions will be equal to their responsibilities.

When the lawyer acts in the capacity of an agent to maintain the rights of the individual he is performing a service, for which he is primarily prepared and licensed. It is his duty to do so. If the doctor wishes to take a chance or worse, flagrantly violates his implied contract to do no harm to the patient, why should he charge a great and noble profession with "racketeering" if one of that profession endeavors to protect the right of some individual.

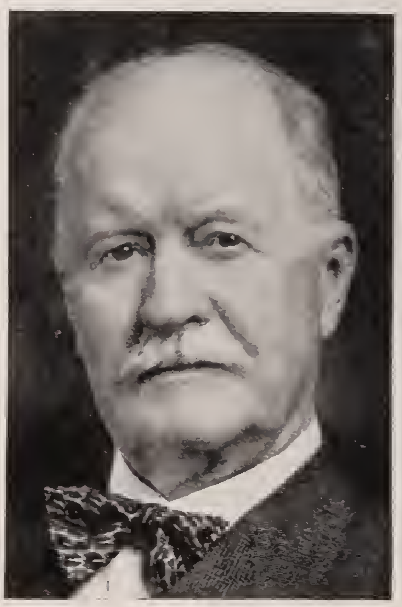
The American Medical Association requires a post mortem examination to be made in 25% of all deaths occurring in a hospital, if this hospital is to maintain its class A rating. Every post mortem examination is a malpractice hazard. The physician who does the post mortem is an employee of the immediate relatives of the deceased and these relatives may demand a copy of the findings. And the physician acting as the examiner and those present as spectators may be called as plaintiff's witnesses. If post mortems are necessary and physicians insist upon them in the name of science notwithstanding the hazard, well and good. If histories are written and records made in hospitals and offices which violate every medical heritage of privileged communications in the pseudo guise of science, and the writer gets into a medical malpractice difficulty for violating confidences, let's not be "babes in wonderland". Let's take it on the chin and take it without a whimper, or stop our asinine vagaries. If we choose political expediency as a substitute for prudent prevention, let's be game enough to take the consequences without childish "squaking".

In my opinion if the medical profession will recognize its obligations, cease its "sob sister" attitude and apply itself to solving its malpractice problem in a straight forward professional manner, this spectre will cease to exist.

—CZAR JOHNSON (Lincoln).

FIFTY-THREE YEARS OF PRACTICE—DR. IRA N. PICKETT

A young physician starting out to practice medicine cannot possibly imagine fifty years of practice ahead of him and to but few is it given to remain on the stage of human activities for that period. It is sufficiently rare to be an event and this *Journal* always wants to celebrate such an event by proper mention when it is made known. The subject of this sketch, Dr. Ira N. Pickett, Odell, has been in practice not fifty, but fifty-three years.



DR. IRA N. PICKETT

Dr. Pickett was born near Carmel, Indiana, June 30, 1852, was orphaned at an early age and was reared by foster parents. He took the liberal arts course at Whittier College, Salem, Iowa, and his medical course at the College of Physicians and Surgeons, Indianapolis, graduating in the spring of 1878. His first location was Stafford, Kansas, but finding it unsatisfactory after about one and one-half years, he moved to Red Oak, Iowa, where he remained three years. He then again turned his eyes westward and located at Filley, Gage county, Nebr., but after about four years, in 1886, he moved to Odell in the same county where he has since remained in active practice and in the fullest enjoyment of the cinfidence of the people of the community.

The people of the Odell community gave Dr. Pickett and wife a testimonial dinner on his seventy-ninth birthday, June 28, in the school house park.

Dr. Pickett was active in medical society work for many years until failing audition precluded active participation in medical meetings, but he consistently retains his membership in the society. He was president of the Nebraska State Medical Association in 1912-13.

THE EDWIN SMITH SURGICAL PAPYRUS, VI.

Wound in the Forehead, Producing a Compound Comminuted Fracture of the Skull:—"If thou examinest a man having a wound in his forehead, smashing the shell of the head thou shouldst prepare for him the egg of an ostrich, triturated with grease and placed in the mouth of the wound. Now afterward thou shouldst prepare for him the egg of an ostrich, triturated and made into a poultice for drying up the wound. Thou shouldst apply to it for him a covering for physician's use; thou shouldst uncover it the third day and find it knitting together the shell, the color being like the egg of the ostrich. Afterward thou shouldst cool it for him with a compress of figs, grease and honey cooked, cooled and applied to it." (Case IX). Comment: A covering for physician's use, a bandage.

PROCTOLOGIC HINT NO. XI

Because of the complete relaxation and absence of pain with local anaesthesia or sacral block, it is much easier to treat rectal conditions than with the use of a general anaesthetic.

—L. E. MOON, Omaha.

Dear Reader:

The Journal and the Cooperative Medical Advertising Bureau of Chicago maintain a Service Department to answer inquiries from you about pharmaceuticals, surgical instruments and other manufactured products, such as soaps, clothing, automobiles, etc., which you may need in your home, office, sanitarium or hospital.

We invite and urge you to use this Service.

It is absolutely free to you.

The Cooperative Bureau is equipped with catalogs and price lists of manufacturers, and can supply you information by return mail.

Perhaps you want a certain kind of instrument which is not advertised in the Journal, and do not know where to secure it; or do not know where to obtain some automobile supplies you need. This Service Bureau will give you the information.

Whenever possible, the goods will be advertised in our pages; but if they are not, we urge you to ask the Journal about them, or write direct to the Cooperative Medical Advertising Bureau, 535 N. Dearborn St., Chicago, Illinois.

We want the Journal to serve you.

EDITORIAL PARAGRAPHS

The American Medical Directory, Twelfth Edition is published.

Dr. John Osborn Polak, Brooklyn, noted obstetrician, is dead at the age of sixty-one.

Dr. Robert M. Patterson is now surgeon-general of the army, vice Dr. Merritte W. Ireland, retired.

Those who know have repeatedly pointed out that a diseased organ may be "tubercular", but the patient is "tuberculous."

New ads are—Tulane University, Kansas City Southwest Clinical Society. The F. A. Davis Co. has renewed its Balyeat's Allergic Diseases ad. Read the ads.

"Bedside Interpretation of Laboratory Findings" by Dr. Michael G. Wohl former Omahan, now connected with Temple University, Philadelphia, has just been published by Mosby.

A new beef animal has been developed in Alaska by the crossing of the yak with galloway cows. It is known as the galoyak and it is said the resulting hybrid is a huge success as a beef animal.

Dr. Orville Barbour, Peoria, reported before the annual meeting of the A. M. A. at Philadelphia that x-ray treatment cures pyloric stenosis. He and his associates found it successful in 33 out of 37 cases.

A two million dollar endowment fund for the eradication of leprosy fostered by the late General Leonard Wood, Governor-General of the Philippines, has been raised. 50,000 persons contributed to the fund.

We have been reminded of the omission from "In Memoriam" in the last issue of the name of Dr. J. H. Mettlen, Bloomfield, who died July 11, 1930. He was a member of the Madison Five Counties Medical society.

Dr. Hobart Amory Hare, professor of therapeutics at Jefferson Medical College, Philadelphia, and author of a work on Materia Medica and another on Practical Therapeutics died recently at the age of sixty-eight.

Science News Letter states: What is believed to be definite proof that mottled and corroded teeth in Arizonna are caused by the existence of fluorine in drinking water was announced by Dr. Margaret Cammack Smith, nutrition chemist of the University of Arizona.

The California legislature recently passed a bill providing for State Medical Libraries with major branches at San Francisco and Los Angeles. It is thought likely that the main objective will be the development of a Package Library Service available to physicians of the state.

A bulletin of the bureau of health well states among other things: "It is well to remember that immunization against diphtheria is permanent. In this respect it differs from smallpox protection, which usually lasts five to seven years, and typhoid protection lasting three years following vaccination."

Statistical information derived from the Nebraska Division of Vital Statistics furnishes some interesting information. There were in 1930 1,438 deaths from cancer, 1,199 from cerebral hemorrhage, 348 from tuberculosis, 291 from diabetes mellitus, 286 from appendicitis, 294 from automobile accidents, 30 from railroad accidents.

Travel by airplane if done in licensed planes driven by licensed pilots over regular airways is said to be safer than travel by motor car. During the last half of 1930 there was but one fatality for every 18,000,000 miles flown under the conditions specified above, while in Illinois there was one fatality to every 8,000,000 miles traveled by automobile, according to *American Medicine*.

We are publishing several rather incisive signed editorials and this is no apology for doing so; rather we take the opportunity to state that this *Journal* is an open forum for the discussion of the problems of organized medicine. In Hyde Park, London, anyone may get on a soap box and discuss any proposition so long as he does not disturb the peace or commit *lese majesty*, the British theory being that it is just as well to have them "get it off the chest".

From the lay press comes a marvellous story of the work of a young man of 29 just graduated from the University of Nebraska College of Medicine. He started at an early age selling newspapers, realized his first life ambition when he was ordained a Methodist minister, later determined to study medicine and in part financed the medical course by filling pulpits Sundays and during vacation periods. Running short of funds he decided to quit his college course for a time to earn some money. In newspaper educational prize contests he won $3,500 in a few weeks. Later he won an additional $2,800. He then went back to medical college to graduate. Meantime he served as an instructor in biology and gave a weekly science lecture over radio station WOW. All this time he had a wife and has a five-year-old daughter. He has taken a position in the army medical corps, at Presidio, San Francisco. His name is Dr. Cecil F. Simmons.

The editor of *Southwestern Medicine* points to hay fever as a subject to be dealt with by the public health service: If an irrigation ditch conveying water through one of our western cities should be found contaminated with typhoid bacilli, it would arouse great activity until such a source of disease was eradicated. If it were found infected by a milder strain of organisms capable of causing sickness in a considerable proportion of the population, it would be regarded as a public health problem. Yet along that ditch, with astounding indifference, we allow to grow weeds capable of producing sickness and disability in hundreds of people, and even to drive many of our citizens away from their homes in the city for months at a time. What does it matter whether disease producing agents are bacteria growing in water, or pollen thrown into the air from noxious weeds on the bank,—if they make people sick, and if that sickness is preventable, is not one condition just as much a public health problem as the other?

The physician was giving an informal talk on physiology.

"Also," he remarked, "it has recently been found that the human body contains sulphur."

"Sulphur!" exclaimed the girl in the blue-and-white blazer. "And how much sulphur is there, then, in a girl's body?"

"Oh, the amount varies," said the doctor, smiling, "according to the girl."

"Ah," returned the girl. "And is that why some of us make better matches than others?"

MODERN TOXICOLOGY

Professor: "What is the most potent poison?"

Student: "An aeroplane; one drop and you're dead!"

NECROLOGY

James C. Tucker, Beatrice, Nebr.; University of Nebraska College of Medicine, 1912; native of Union, Nebr.; in practice at Long Pine from 1912 to 1916, in medical corps of the army on the Mexican Border six months, with the British and French armies until the arrival in France of the American Army when he became attached to the surgical staff of Hospital No. 1 at Neuilly, France, remaining there until the end of the war; did postgraduate work in Paris, Toulouse and the University of Pennsylvania; connected with the Gifford clinic, Omaha, during part of 1920 and 1921; located in Beatrice in eye, ear, nose and throat work the last ten years; member, Nebraska State Medical Association and of a number of special societies; prominent in civic and social affairs in his community; died of nephritis July 3, 1931, aged about forty-five years. A widow and two sons survive.

UNDERSTANDING

(Editor Nebraska State Medical Journal: I notice in the last two or three issues of the Journal there has been no poetry nestling among the advertisements to liven them up. I like poetry, and so I am sending you some. You may not like my selection. Lots of people wouldn't, but it is all right when used as it is intended.

The way to get along with a woman is to first make her mad and then love her up a little. It works. I know for I have tried it. Another nice thing about this pome(?) is: if you don't want it, it will rest contentedly in any ordinary waste paper basket.)

Woman's understanding doesn't seem to work at all;
She's got some inside feeling, but the feeling's mighty small.
They call it intuition, where it's working good and strong;
It may be right, occasionally, but mostly it is wrong.

Talk about judgment! They don't know what judgment means;
For, when the bag is open, they can't recognize the beans.
And reason! My land of goodness, they do not know the word—
They think it means rouge and lipsticks or something as absurd.

Hark, listen to that lullaby; that's woman's nature song.
She may be short on reason, but on Mother love she's long.
What matters reason anyway? Why drink at wisdom's founts?
It's Mother love, and other love and only love that counts.

—G. O. REMY, M. D., Ainsworth.

ANNOUNCEMENT TENTH ANNUAL SESSION AMERICAN CONGRESS OF PHYSICAL THERAPY

OCTOBER 5, 6, 7, 8, 1931.

Hotel Fontenelle, Omaha, Nebraska

The tenth anniversary session of the American Congress of Physical Therapy will be held October 5, 6, 7, 8, 1931, at the Hotel Fontenelle, Omaha, Nebraska. The Congress has always endeavored to present a program of high quality, and while each year has seen a steady improvement, this year's program is of such a standard that it will be difficult to surpass in the future. Appreciating the desirability of clinics and clinical demonstrations, the program committee has set aside the mornings for these purposes. It will be the first time that the society will have available ample clinical material for medical and surgical services. The cooperation of the University of Nebraska, College of Medicine, and the Creighton University School of Medicine has made this possible. In the section on eye, ear, nose and throat, tonsil clinics will be conducted daily during the first three days of the meeting. Electrosurgery for tonsils has found a definite place in the armamentarium of many surgeons. Prominent specialists will demonstrate the various methods and technics now being employed.

The subject of fractures will be thoroughly covered in the surgical clinics. Leading orthopedic surgeons will demonstrate every phase of the work emphasizing the indications and contra-indications for physical therapy.

In the medical section and in the medical clinics every allied specialty is represented. The subject of pneumonia will be adequately discussed as will such subjects as come in the fields of pediatrics, gastroenterology and dermatology. Massage, therapeutic exercise and hydrotherapy will be presented by specialists in these fields.

An unusual feature of this tenth annual gathering is the fact that numerous local and state organizations are lending their efforts for its success. Among these are the Omaha-Douglas County Medical Society, the Omaha Roentgen Ray Society, the Nebraska division of the American Society for the Control of Cancer and several others. A joint meeting with the Omaha-Douglas County Medical Society will be held on Tuesday evening, October 6.

While the sessions start on Monday morning, October 5, the formal opening of the convention will be in the evening of the same day. This gathering will be addressed by the Lieutenant Governor of the State of Nebraska and the Mayor of Omaha. Other speakers of prominence will participate and the evening's program will conclude with a smoker, fellowship gathering and entertainment.

The scientific papers will be read during the afternoon sessions. The unusually wide range of subjects and the meritorius papers which will be presented make this program an outstanding one.

The progressive physician who is desirous of keeping abreast of the times can no longer neglect his attendance at a meeting such as this one. While four days is none too long a period for postgraduate instruction one will be able to gather more than inspiration from the valuable clinics and scientific papers. Physicians desirous of having their technicians and assistants acquaint themselves with the newer developments in physical therapy are invited to have them attend this four day scientific meeting. For preliminary program and other information write to the American Congress of Physical Therapy, 30 North Michigan Avenue, Chicago, Illinois.

PANORAMIC VIEW OF THE WOMAN'S AUXILIARY TO THE A. M. A. IN FOUR ARTICLES

4. WESTERN DISTRICT

Mrs. James F. Percy

As my division in the organization work covers the states of the far west, branching to the middle states only to include Nebraska, this panorama will begin there. We have been enjoined for so many years to "Go West", it has now become a favorite direction of travel.

Nebraska is always up and doing and a survey of activities of 1931, shows an extensive distribution of the National Auxiliary Study Envelope on "Communicable Disease Control"; much welfare work, especially providing professional visiting nurses for public schools in various counties and definite organization of county relief work at a great saving to the County Commissioners. Here indeed is a far-reaching benefit for the community-at-large in a practical, economic way. Benefits are held to procure funds for completing files of scientific books and magazines and research work of the pathological laboratory connected with the Sharp Building Library at Lincoln. The Auxiliaries' scientific educational programs contain many important names, these together with social and philanthropic activities keep everyone interested, useful and happy. One new county auxiliary has been reported as a last gift to this administration.

Colorado has kept up the interest aroused during the National Presidency of Mrs. F. P. Gengenbach of Denver, particularly with spreading ideas of good and better health through the use of literature in the less populated districts. Included with this, Study Envelopes have been used and a greater field developed for approved health programs in other organizations. Growth in numbers has not been sought so much as growth in achievements.

Wyoming must be passed as having been silent to all requests for even a hint as to its status. Geographically, Wyoming and Utah are difficult of organization but within the few years that lie ahead, they are certain to be caught in the vibration already swinging its way throughout the land and they cannot long be resistant to its call, we are sure. Utah has already given expression through her women visiting other states, that she is ready to take action to further a properly organized auxiliary.

New Mexico, with but one county, Bernalillo, organized and far from all centers of activity, has been an inspiration by their efforts to follow the National precepts. Unless one has travelled the great spaces of the deserts of the southwest, no conception of its distances can be formed. This one county has taken up Child Welfare work, sale of Tuberculosis Seals, enjoyed programs from their Medical men, County Charities' Chairman, County Health Nurses and State Director of Public Health and carried the social activities of the State Medical Convention. They are few in numbers, but verily the leaven quickeneth the whole loaf.

Arizona has trebled its units from one to three but has found organization work difficult due to distances. Social features have prevailed unless some definite need has loomed in the offing, such as the Basic Science Bill, for the passage of which the State Auxiliary made great effort. In a state so filled with cults the passing of the Bill by the Senate was a real achievement, even though it was finally held up in Committee. However, nothing daunted, the members are now aroused to the possibilities and usefulness of an auxiliary and experienced women are stepping forward, willing to serve and assist in making an active, worth-while organization.

California has been concerned, aside from organization, with establishing itself upon a permanent foundation through a proper Constitution and has been able to do this with the full support of the California Medical Association, who are printing these Constitutions as a gift to the State Auxiliaries.

At the recent State Meeting, held in San Francisco, April 27-30, 165 women registered, with 55 delegates and 115 women seated at the annual luncheon. The Auxiliary now feels safely established and on its keel.

The keynote of each county report was education but the social side, welfare work, Red Cross, changing the position of a State Senator, creating sentiment for a Tuberculosis Sanatorium, local philanthropies, all had their places with the scientific programs. A chart "The Technique of Following a Bill Through the Legislature" provided a most unique, striking and valuable object lesson of information as to what we are all up against in our legislatures and their procedure. This subject is highly recommended to all organizations.

A resolution was introduced and adopted and directed to the National Committee on the "High Cost of Medical Care", asking for a change in the name under which the Committee functions to one more in accord with the facts they are studying, namely: "The High Cost of Illness or Sickness". The original name implies some fault of the medical profession: while the proposed name is inclusive of all the various factors involved in the problem. A copy has been sent to the National Auxiliary asking their indorsement of said resolution at the Philadelphia Convention. The California Medical Association is presenting a similar resolution to the House of Delegates, A. M. A., whose membership now closely approaches 900.

The interest shown and the friendliness in the social life at this Convention demonstrated a new order which we hope has come to stay.

Oregon has chiefly concentrated upon organization work and revival of general interest this year, through providing the units with a list of suggested study topics to encourage a similarity of subjects. Portland has monthly meetings with speakers who use the material contained in the Study Envelopes and are extending their educational and philanthropic interests as well. Temporary organization in one county is hoped to soon become permanent, thereby increasing their number and justifying the work of the state officers.

Washington is showing great interest to become organized and after considerable correspondence, it has been deemed best to have the primary action come through the State Medical Meeting which takes place soon after the Philadelphia Convention. We feel it is safe to prophesy that Washington will be on the list of organized states for our successor.

Idaho is listed as an organized state but as all letters have remained unanswered the panorama must end here.

To those who were fortunate enough to attend the National Meeting at Philadelphia, no further stimulus will be needed.

Each state will be eager to carry out the aims and ideals of the parent organization.

We learn from those who have achieved, and in Pennsylvania the accomplishments of the Auxiliary together with their complete plan for the National Convention will give a wide understanding of a still greater organization and insure a generally more important recognition in the days to come.

TUBERCULOSIS ABSTRACTS

A REVIEW FOR PHYSICIANS

The Twenty-seventh Annual Meeting of the National Tuberculosis Association, held at Syracuse, New York, May 11-14, 1931, was attended by 1,010 registrants. Papers and discussions dealing with the pathological, clinical, social, and administrative aspects of tuberculosis furnished a well balanced program. While most of the papers were of interest primarily to specialist groups, all contributed to our general knowledge of tuberculosis. All papers, either in their entirety or as comprehensive abstracts, will be published a few months hence in "Transactions of the National Tuberculosis Association." A few high lights of general interest are here presented.

TUBERCULOSIS WORKERS REPORT PROGRESS AT ANNUAL MEETING

The opening session celebrated the twenty-fifth anniversary of the Christmas seal, the device which made possible the financing of the tuberculosis movement in the United States. Miss Emily P. Bissell, who introduced the seal in this country, was the guest of honor.

Dr. Livingston Farrand, president of Cornell University, who served as executive secretary of the National Tuberculosis Association from 1905 to 1914, described how the Christmas seal sale grew from $3,000 in 1910 to $5,350,000 in 1930. The total receipts from this method of fund raising in the United States have aggregated $58,640,000. This money has been used largely for the promotion of official measures designed to combat tuberculosis, and by this means there have been secured from the public purse sums that aggregate at the present time close to $500,000,000. "Christmas seals invested in community organization have resulted in dividends of incalculable benefit."

Emily P. Bissell recounted the origin of the Christmas seal. She was interested in 1907 in raising a few hundred dollars to provide a small sanatorium of 8 beds for consumptives in Wilmington, Deleware. Having read Jacobs Riis' description of the Danish Christmas seal in "The Outlook," she decided to adopt the method. The first seal issued aroused scant interest until "The Philadelphia North American" gave it publicity and proved the possibilities of raising money through the sale of penny stickers. The seal was not a sudden inspiration or a detached idea. As a social worker, Miss Bissell had learned that fairly large subscriptions may be obtained for a worthy project from a few individuals if it is explained to them. But the real public, the people who can afford to give from ten cents to one dollar, are difficult to reach. The Christmas seal makes it possible for all to participate and also enlists widespread individual interest in the problem of tuberculosis.

MEDICAL RESEARCH

Dr. Florence R. Sabin outlined the program of the Committee on Medical Research under the chairmanship of Dr. William Charles White. Under the plan, various universities and laboratories throughout the country co-operate in the solution of carefully outlined problems. All the groups engaged in the work meet frequently and discuss their progress.

One of the projects is that of subjecting strains of acid-fast bacilli, of which the tubercle bacillus is one, to chemical analysis. The essential foundation for such a survey is a synthetic culture medium of known and constant composition free from any protein, complex carbohydrates, and lipoids. The various products of the medium, as well as the chemical fractions of the tubercle bacillus, are submitted to bioligical tests in order to determine the specific physiological reaction of each fraction or pure substance. For example, saturated fatty acids derived from the tubercle bacillus reproduce typical tubercles in animals. Both proteins and carbohydrates derived from the tubercle bacillus reproduce the toxic symptoms characteristic of the disease. After each new fraction of the tubercle bacillus is isolated, it is tested in the biological laboratory, the end in view being to formulate a complete catalogue of the component parts and their physiological reactions.

Other studies include an investigation into the physiology, particularly the respiration rate, of living tubercle bacilli. One worker has devised a means of isolating a single bacillus and watching its entire life cycle under the microscope. Another group is attempting to standardize the reading of x-ray plates and the construction of x-ray equipment.

NEW DISCOVERIES ANNOUNCED

At the meeting of the American Sanatorium Association, one of the affiliated groups, several important research developments were announced. Dr. E. Fenger of Glen Lake Sanatorium, Minnesota, speaking for the group who participated with him, reported on a new tuberculin known as MA-100. This is a protein common to all acid-fast bacilli. The combined results of several investigators justified the opinion that the new tuberculin possesses four distinct advantages: (1) it is free from all substances that might render the positive reaction uncertain; (2) it can always be produced at the same iso-electric point in precipitation; (3) it contains nothing except what is manufactured by the germ of tuberculosis itself; (4) it can be diluted in quantity accurately to enable every physician to know exactly how much of the active element he is using.

Professor Charles Weyl of the University of Pennsylvania, technical adviser of a group headed by Dr. F. Maurice McPhedran who are endeavoring to standardize x-ray equipment, announced a method of making x-ray pictures of the chest so synchronized as to take several short exposures between heart beats. The resulting composite negative produces a clear picture free from blurring caused by the heart's action. Professor Weyl compared the mechanism of the apparatus with that used in a combat airplane, whereby machine gun bullets may be shot between the whirring propeller blades. The device marks a step in advance towards standardizing x-ray pictures.

Another advance in the work with the x-ray was made public at the meeting by the same group, who have been attempting for several years to eliminate variations in the results obtained with different x-ray machines. Differences in lighting and mechanical action of apparatuses heretofore have made the accurate reading of negatives depend upon due allowances for peculiarities known to exist in the operation of the individual machine. For example, pictures made in one city with a certain appartus would be found, if the patient moved to another city, to be of little use in diagnosing progress of tuberculosis because the second physician would not be conversant with the variables characteristic of the first machine.

By means of an instrument called a "comparator densitometer," designed and constructed by the group making the report, a standard is established which the operator can use to know in advance of taking the x-ray that a certain established density in the picture will be obtained. This enables physicians in different parts of the country to work with x-rays upon a uniform basis, as well as reducing the variations that have stood in the way of accurate judgment.

In addition to these developments, it was announced at the meeting that a fixed resistor has been designed which will test the supply of electrical current; also a peak voltmeter for vacuum tubes, and a standard testing apparatus which will help hospitals, sanatoria, and laboratories to choose the x-ray machine best suited to their needs.

EXPANSION OF TUBERCULOSIS ASSOCIATIONS

Harry L. Hopkins, director of the New York Tuberculosis and Health Association, discussed the question, "Should the Tuberculosis Association Go Into Other Health Fields?" The rapid decline of the tuberculosis death rate and the wide increase of public facilities, such as sanatoria, clinics, health departments, and nurses, warrant the tuberculosis associations in giving serious thought to future programs. The campaign against tuberculosis has by no means been won; an aggressive warfare must be continued, but it should no longer be in the form of direct services rendered. Rather should it be to encourage public authorities to provide funds for adequate sanatorium beds, more tuberculosis clinics, more nurses, and more tuberculosis physicians. Its direct services should be limited to health education, and even here more efforts should be made to induce the public authorities to extend their own facilities. Associations can properly take part in direct activities of a research nature and more particularly those that are demonstrations in character.

Tuberculosis associations, national, state, and local, are admirably equipped to extend their efforts in combating other forms of disease and in promoting positive public health work. Among the projects that have already been undertaken by certain associations are the campaigns against diphtheria and heart disease, the promotion of mental hygiene, child health work, and social hygiene.

OFFICERS ELECTED

The officers of the National Tuberculosis Association elected for the ensuing year are: President, Dr. Alfred Henry, Indianapolis; vice-presidents, Dr. John H. Peck, Des Moines, and Dr. Willard B. Soper, West Haven, Connecticut; secretary, Dr. Charles J. Hatfield, Philadelphia; treasurer, Henry B. Platt, New York City. Officers of the American Sanatorium Association, whose sessions were held simultaneously, are: President, Dr. Harry Lee Barnes, Wallum Lake, Rhode Island; vice-president, Dr. Fred H. Heise, Trudeau, New York; secretary, Dr. W. H. Ordway, Mt. McGregor, New York.

The Trudeau Medal "for the most meritorius contribution on the cause, prevention or treatment of tuberculosis" was awarded this year to Dr. Allen K. Krause.

THE SOCIETIES

The Madison Five Counties Medical Society June meeting was held at Plainview on the 23d. Dinner was served in the basement of the Congregational church to fifty-five physicians and their ladies after which the program was given in the church auditorium. Dr. G. Alexander Young, Omaha, gave an interesting talk, illustrated by charts, on Meningitis. Dr. Edwin G. Davis, Omaha, spoke on the principal diagnostic points in Urology.

A joint meeting of the **Saline and Fillmore Counties Medical Societies** was held at Exeter, June 26. A chicken dinner was served in the basement of the Methodist church. About forty physicians attended the meeting. The program was as follows:

Injection Treatment of Varicose Veins, Dr. H. H. Davis, Omaha; Ringworm, Dr. D. J. Wilson, Omaha; Ischial Spines, Dr. Chas. Moon, Omaha; The Organization of a Hyphenated County Medical Society, Dr. F. A. Long, Madison.

Dr. Davis feels assured that the injection method has superceded all other methods for treating varicose veins; but there are cases to which the method is not suitable. Dr. Wilson thinks 80% of people have ringworm in some form; not all cases can be treated successfully. Dr. Moon explained the role of the ischial spines in the mechanics of labor. Dr. Long spoke of the origin, development and success of the so-called "Madison Five Counties Medical society", the third largest component medical society in Nebraska, and suggested the application of the five county idea to other parts of the state. A committee was appointed to work out the idea for a number of contiguous counties surrounding the Saline-Fillmore area, the committee to report at the September meeting.

The **Richardson County Medical Society** at a meeting held at Shubert June 17 decided to cooperate with the Elks in putting on a clinic for crippled children. Dr. William Shepherd of Rulo and Dr. M. L. Wilson, Falls City, read papers on diet. A dinner was served in the Christian church.

The **Chase-Dundy-Hayes-Hitchcock County Medical Society** held its annual picnic at Pierce lake, near Benkelman, June 25, the dentists participating by invitation. The attendance of doctors and dentists and their families was said to have been almost one hundred per cent.

The **Cedar-Dixon-Dakota-Thurston and Wayne Counties Medical Society** was held at Emerson June 26. A series of lectures was given by Dr. Rodney Bliss, Dr. H. L. Kennedy, Omaha, Dr. J. B. Naftzger, Sioux City, and Dr. John Buis, Pender. A six o'clock picnic dinner served by the doctor's wives featured the meeting.

HUMAN INTEREST TALES

Dr. D. B. Wengert, St. Paul, was reported seriously ill a month ago.

Dr. R. M. Lee, Ravenna, spent a month about the Minnesota lakes.

Dr. W. J. Luxford, Decatur, submitted to an operation in an Omaha hospital recently.

Dr. and Mrs. J. Harry Murphy, Omaha, spent the month of July on a ranch at Jackson, Wyo.

Comstock has a new physician in the person of Dr. A. G. Spencer who came from Omaha.

The partnership heretofore existing between Drs. T. L. Weeks and C. A. Zimmerer, Nebraska City, has been dissolved.

Dr. John B. Potts, Omaha, was elected to membership in the American Laryngological society at the annual meeting held at Atlantic City in June and also to membership in the American Otological society at Briarcliff, N. Y., in June.

BOOK REVIEWS

ALLERGIC DISEASES, THEIR DIAGNOSIS AND TREATMENT, by Ray M. Balyeat, M. D., (Third Edition, Revised and Enlarged. Published 1930 by F. A. Davis Company, Philadelphia).

Dr. Balyeat, in this book, has explained allergy in very simple terms so that the doctor or the lay-person not familiar with this subject can get a lot by reading it. The book is systematic in dealing with the various conditions which are now considered to be grouped under the term "allergy." He has dealt not only with the types with which the average physician is familiar but has described quite thoroughly migraine, vasomotor rhinitis and eczema.

In discussing the causes of allergic conditions Dr. Balyeat has stressed the value of history taking in order to determine the hereditary influence in this condition. The chapter dealing with this phase is very interesting and very enlightening.

Dr. Balyeat has put in some chapters which add a human touch to the book where he describes the source and supply of orris root and kapok. These are interesting to all of us and especially so to patients who are sensitive to the substances.

The treatment is gone into as thoroughly as the present status of the treatment of allergy will permit. His treatment of hay fever is the acknowledged one commonly accepted, viz., the injection of increasing doses of extract of the pollen to which the patient is proven sensitive by skin test. Skin and intradermal methods of testing are thoroughly described and for one interested in going into this work this book should prove valuable as a ground-work for beginning his reading. It is also a safe book in the hands of patients.

—E. L. MacQuiddy, Omaha.

ANNUAL REPRINT OF THE REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR 1930. Cloth. Price, $1.00. Pp. 91. Chicago: American Medical Association, 1931.

This book is essentially a record of the negative actions of that distinguished body, the Council on Pharmacy and Chemistry of the American Medical Association; that is, it sets forth the findings concerning medicinal preparations which the Council has voted to be unacceptable for recognition and use by the medical profession. Many of the reports record outright rejection or the rescinding of previous acceptances; others report in a preliminary way on products which appear to have promise but are not yet sufficiently tested or controlled to be ready for general use by the profession.

Among the reports recording outright rejection are those on: Avesan (H), formerly Nuforal, a mixture stated to be composed of formic acid, sodium nucleinate, camphor, allyl sulphide and chlorophyll, with traces of salicin and sulphuric ether, marketed with unwarranted claims of usefulness in the treatment of tuberculosis, asthma, and other respiratory diseases; Ceanothyn, once before repected and still found to be marketed with unsupported therapeutic claims; Collosol Calcium and Collosol Kaolin, so-called colloidal preparations, the former an unscientific mixture of unproved value, the latter a possibly dangerous preparation, and both marketed with unwarranted claims; Ephedrol with Ethylmorphine Hydrochloride, an unscientific ephedrine preparation marketed under an unacceptable proprietary name with unwarranted therapeutic claims; Farastan, an unscientifc iodine-cinchophen preparation proposed for routine use in "arthritis . . . and Rheumatoid conditions"; Haley's M-O Magnesia-Oil, a magnesia magma and liquid petrolatum mixture in fixed proportions marketed with emphasis on the "M-O"; Lydin, a testicular extract, marketed with claims of value in the treatment of impotence; and Metatone, a shot-gun "tonic" mixture marketed under a proprietary name with unwarranted therapeutic claims.

NEW AND NONOFFICIAL REMEDIES, 1931, containing descriptions of the articles standing accepted by the Council on Pharmacy and Chemistry of the American Medical Association on Jan. 1, 1931. Cloth. Price, postpaid, $1.50. Pp. 481+LVI. Chicago: American Medical Association, 1931.

This volume is the annual publication of the Council on Pharmacy and Chemistry of the American Medical Association giving the latest authentic information concerning those of the newer medicinal preparations found worthy of the consideration and use of the medical profession. Each year the Council scans the general articles under which the various preparations are classified and revises these to conform to the latest and best medical thought.

A glance at the preface shows that a number of preparations have been omitted because they conflict with the rules that govern acceptance, because their distributors did not present evidence to demonstrate their continued acceptability, or simply because the manufacturers have taken them off the market. Important revisions have been made in a number of the general articles and in the descriptions of various preparations. Among the new preparations that have been found by the Council during the past year to be eligible for admission to the book are: Amytal and Pulvules Sodium Amytal, 3 grains, barbituric acid derivatives for use preliminary to surgical anesthesia; Thio-Bismol, quinine bismuth iodide, sodium potassium bismuthyl tartrate, and Tartro-Quiniobine, bismuth compounds for use in the treatment of syphilis; Scillaren and Scillaren-B, preparations containing the squill glucosides; two new cod liver oil concentrates; Synephrine, a new vasoconstrictor, and synthetic thyroxine.

New and Nonofficial Remedies should be in the hands of all who prescribe drugs. The book contains information about the newer materia medica which cannot be found in any other publication.

CRIPPLED CHILDREN, THEIR TREATMENT AND ORTHOPEDIC NURSING, by Earl D. McBride, B. S., M. D., F. A. C. S., Instructor in Orthopedic Surgery, University of Oklahoma, School of Medicine. 16 mo., 280 pages, cloth cover with one hundred fifty-nine illustrations. Published by the C. V. Mosby Co., St. Louis. Price $3.50.

PROBLEM OF TUMORS OF BREAST FROM STANDPOINT OF GENERAL PRACTITIONER AND SURGEON

Arthur Dean Bevan, Chicago (*Journal A. M. A.*, Nov. 1, 1930), says that in a surgical clinic in which during the year 300 women present themselves with the problem of tumor of the breast, 100 will not have a tumor at all, 100 will have a benign tumor, and 100 will have a malignant tumor. Those who have no tumor at all form a most important group. They must be carefully studied, as they are an essential part of this problem. These patients fall into several groups: 1. Women who are alarmed about their having a breast tumor and come direct to the clinic; often they are in the fear of cancer because some relative or friend has had cancer. An examination shows no tumor. 2. Women who have consulted a general practitioner about their breast and have been told that they have a tumor and have been referred to the clinic for operation. Examination shows no tumor. 3. The woman in fear of a breast tumor who consults her family physician, who thinks she may have a breast tumor and refers her to a surgeon, who tells her that she has a tumor and needs an operation. Often the statement is made that an immediate operation should be done. Badly frightened, the woman or her husband desire another opinion and come to the clinic. An examination at the clinic fails to find a tumor of the breast and it is evident that no operation is required. Of the 300 women coming to the clinic, 100 have no tumor and require no operation. The other 200 women who are examined have a breast tumor. About half of these have benign tumors or benign conditions of the breast, and about one half have cancer. The essential benign tumors of the breast are fibro-adenomas and fibrocystic disease, the so-called chronic mastitis of the breast. The malignant tumors of the breast are carcinomas in all but 1 or 2 per cent of cases and these are sarcomas. Women often come for examination of the breast saying that they have discovered a dimple in the breast which they have never seen before; this almost invariably means cancer. The cases of cancer of the breast which can be cured by operation are those in which the lesion is still limited to the block of tissue which can be removed at the operation, and in these cases the only pieces of evidence that can be obtained are the existence of a lump fixed in the breast tissue. For clinical purposes the best classification of tumors of the breast is into benign and malignant. The operative technic for tumors of the breast has become standardized. The benign tumors should be removed by local excision, the malignant by the radical breast operation. One cannot always be sure in a given case, however, whether one has a benign or a malignant tumor to deal with and this fact must, of course, be first determined. One must always be prepared in a given case to do either a local or a radical operation. The patient is told before the operation that the diagnosis cannot be determined with absolute certainty except by a microscopic examination. In benign cases there should be no mortality and no recurrence. There is one form of tumor, the papillomatous cyst, which is like the papillomatous cyst of the ovary and which, if it is early removed and completely removed, seldom returns, but which may, if it is allowed to remain, develop into a malignant papilloma. In the cases in which the cancerous disease is limited to the breast and the block of tissue removed at operation and the axillary glands are not involved. the prognosis is excellent, probably 75 per cent of cures. In those, on the other hand, in which the axillary glands are involved, it at once sinks to less than 10 per cent of cures; and in the cases in which the glands above the clavicle are involved, it sinks almost to zero. As the patients come to the clinic, in most of them at operation the axillary glands are found to be already involved, and these cases reduce markedly the percentage of permanent cures. Bevan believes in a thorough course of roentgen treatment after the operation; not in massive doses but in very moderate doses continued for some time. Cancer of the breast can be cured. It can be permanently cured in the cases which are recognized early and in which operation is performed early. He is thoroughly converted to the position that the campaign of education that is being carried on by the Society for the Control of Cancer and by the profession as a whole is leading to earlier diagnosis and more cures, and should receive the support of the entire profession.

Doctor: "You haven't been tiring the patient out with a lot of needless conversation. have you?"

Amateur Nurse (brightly): "Oh, no. I've done every bit of the talking myself."

The mosquito, unlike a doctor. presents his bill before he works on you.—Florida Times-Union.

ROSTER OF OFFICERS—1931

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F. B. Young, Gering, Vice President	1932
R. B. Adams, Lincoln, Secretary-Treasurer	1933

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A. E. Cook, Randolph	1933
Morris Nielsen, Blair	1931
Frank Tornholm, Wahoo	1931
H. E. Potter, Fairbury	1931
W. J. Douglas, Atkinson	1931
R. D. Bryson, Callaway	1932
L. W. Rork, Hastings, Chairman	1932
C. A. Selby, North Platte	1932
A. L. Cooper, Scottsbluff	1932

DELEGATES TO THE A. M. A.

B. F. Bailey, Lincoln	1931
R. W. Fouts, Omaha	1932

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J. S. Welch	Lincoln

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RECENT ADVANCES IN THE DIAGNOSIS AND SURGICAL TREATMENT OF CARCINOMA OF THE COLON*

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In few fields of surgery has the last decade seen more favorable progress than in surgery of the colon and rectum. Technical advances and, more particularly, increased diagnostic accuracy have marked its passing. Today, an expert roentgenologist, in any properly prepared case of suspected organic lesion of the large bowel, may localize it to a given segment with the same accuracy that was possible in cases of gastric and duodenal lesions ten years ago. Accurate proctoscopic examination makes possible the recognition of practically all organic lesions up to the juncture of the middle and lower thirds of the sigmoid. Cooperation in treatment, better selection of types of cases for operation and operation for cases, as well as improved operative maneuvers, now permit the extirpation of lesions in this portion of the gastro-intestinal tract with a corresponding decrease in the immediate hospital mortality and a reasonable expectancy of increased satisfactory end-results.

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*Read before the Nebraska State Medical Association, Omaha, May 13, 1931.

PROGNOSIS

Happily, the prognosis in cases of carcinoma of the large bowel and rectum removed surgically, is, and has been long recognized, relatively good, the detracting factor in this field always having been the relatively high operative mortality. Prognosis is influenced by many factors, primarily significant among which is that carcinoma in this situation is prone to remain local for a long time. Secondarily, the lymphatic supply of certain segments of the large bowel, particularly the right half of the colon and the splenic flexure, is relatively scant and for this reason distant distribution of malignant cells is not hurried. Obviously, the prognosis is influenced by operability which, in turn, is dependent on the presence or absence of lymphatic involvement and distant metastasis, local fixation, involvement of adjacent viscera and the patient's age and general resistance. The situation, the size of the growth and the intensity of the malignant invasion may likewise be included as vital factors in the ultimate outcome. In general, it may be safely reiterated that if the carcinoma is in this segment of the gastro-intestinal tract,without distant metastasis and under conditions in which extirpation is possible, the prognosis is as satisfactory as for carcinoma elsewhere in the body.

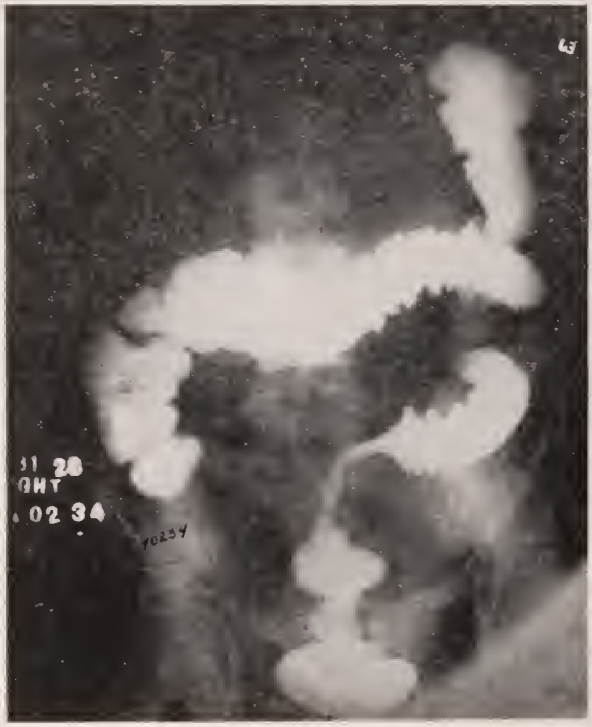

Fig. 1. Extensive filling defect in the sigmoid caused by large mass of metastatic nodes compressing the lumen of the bowel at this point.

ETIOLOGY

Although it would be highly desirable to feel that distinct progress had been made toward developing the etiologic factor in carcinoma, one must admit that the productive factor is still a nebulous one. However, certain so-called precarcinomatous states do lend light toward a better understanding of fully developed carcinomas. I refer to the relation of polyps of the colon and rectum to the formation of carcinoma. The ready observation of multiple polyps in so many normal colons and rectums tends to influence one in the belief that they are very common and although one would hesitate to assert arbitrarily that all carcinomas of the large bowel and rectum develop from polyps it is certain that many of them do and there is a possibility that this hypothesis may be extended.

Recently, in The Mayo Clinic, FitzGibbon and I studied a series of thirteen cases of multiple polyps of the colon, some of which were generalized in distribution through to carcinomatous degeneration. Fortunately, the lower portion of the colon and rectum, where carcinomas occur eight times as frequently as throughout the remainder of the structure, offers ample opportunity for early deviations from normal tissue because of its accessibility, and the so-called precarcinomatous polyps may readily be observed in all stages in this situation. The so-called multiple polyposis or adenomatosis of the large bowel is a well recognized precursor of malignant degeneration; it is well known that half of the patients suffering from this condition ultimately die from carcinoma. That the formation of polyps in the colon and rectum is one of a sequence of events, plus the initiating factor, be it trauma or otherwise, which results in malignant tumor in a great many cases, is unquestionable and I believe that from the recognition of this fact prophylaxis may be developed which will be advantageous to many patients.

DIAGNOSIS

Increasing accuracy in diagnosis is the direct result of improvement in the recognition of a syndrome of symptoms which calls attention to malignancy of the large bowel before it reaches the stage of obstruction and metastasis, together with increased facilities in the roentgen laboratory which permit of its accurate interpretation and localization following satisfactory preliminary preparation. One may safely say that the greatest advance in the diagnosis of disease of the large bowel in the last decade has been at the hands of the roentgenologist. In the roentgen-ray laboratory of The Mayo Clinic, an accurate diagnosis of organic lesions of the large bowel, verified at exploration, was made in 95.6 per cent of all cases examined in 1929 and 1930. The realization of this high degree of perfection in the diagnosis of disorders of the colon has been the result of painstaking study, not only by fluoroscopic visualization of the lesion and interpretation of the films, but by recognition of certain other factors which are just as essential. It should be noted that in carcinoma of the rectum and lower portion of the sigmoid up to the juncture of the middle and lower thirds, the diagnosis should not be attempted by roentgenologic examination. Growths in the rectum, rectosigmoid and lower portion of the sigmoid are always within reach of either the examining finger or the proctoscope, or both. It is unquestionably a mistake ever to depend on the roentgenogram to localize lesions in this region. Beyond the juncture of the lower third and the middle of the sigmoid, however, practically all carcinomas and other organic lesions of the large bowel should be demonstrable roentgenologically.

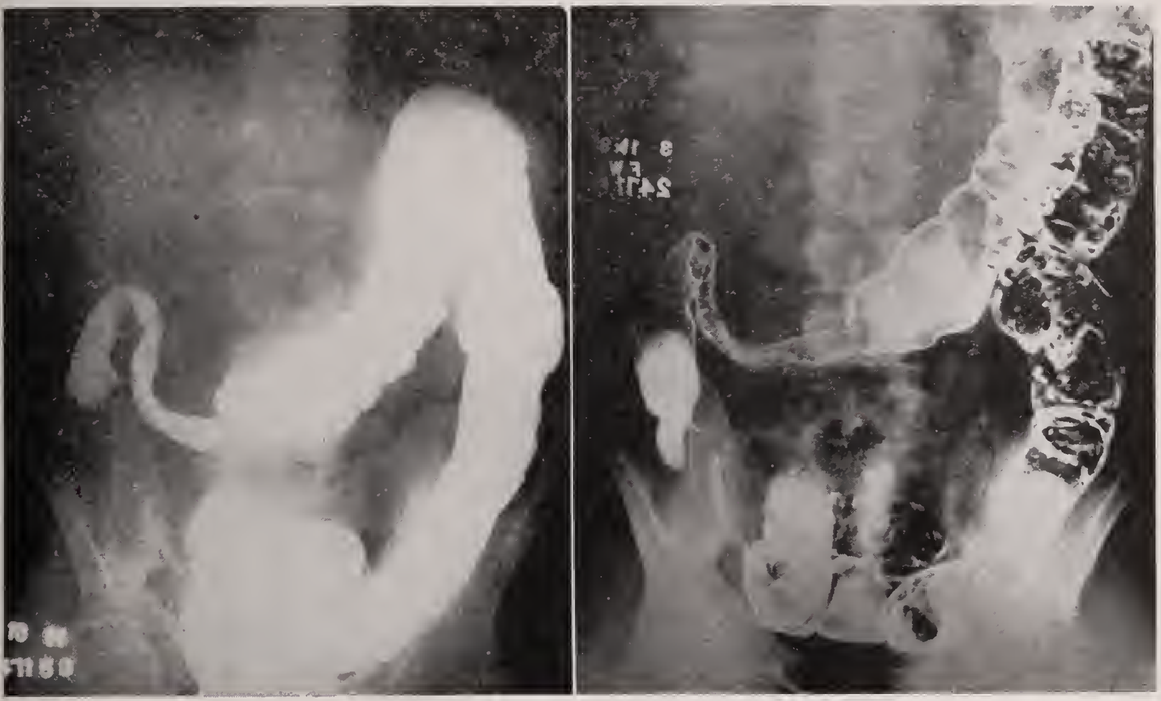

Fig. 2a

Fig. 2b

Fig. 2a. Barium enema. Extensive involvement of the entire right colon and the proximal half of the transverse colon with diffuse narrowing of these segments and involvement of about 18 cm. of the terminal ileum. Roentgenologic diagnosis: hyperplastic ileocecal tuberculosis. 2b. Combined technic.

To insure success or, rather, to obviate the difficulties of diagnosis, accurate preparation of the colon is essential; that is, the colon into which a barium enema may be injected should be empty. Purgation and cleansing by enemas will invariably clear the colon to such an extent that injection of the barium enema will permit clear visualization of the local lesion. It should be emphasized that for diagnosis of organic lesions of the colon ingestion of the meal by mouth is not only worthless as a diagnostic measure but is frequently highly dangerous in that it is likely to superimpose an acute intestinal obstruction on a chronic one by plugging a small and stenosed lumen completely. I know of no way to prevent the occasional acute intestinal obstruction from being unnecessarily produced in this manner. It is a practice, however, to be summarily condemned in its entirety and the urgent hope is that the roentgenologist of the future will recognize this important practical fact and object strenuously to the oral administration of mediums in the diagnosis of lesions of the colon.

Under the fluoroscope, definite canalization of the lumen of the bowel may be visualized and the rough, jagged contours of its margins, associated with the firm, knotty consistence of the mass, which is frequently felt, are the cardinal differential characteristics of a malignant lesion.

That valuable laboratory diagnostic aid should be closely associated with an accurate anamnesis and careful general examination goes without saying. Furthermore, it is to be greatly hoped that as better knowledge of the symptoms and diagnostic measures applicable to the recognition of organic disease become more popularized and more widely known among the profession, that examination of the large bowel and proctoscopic examination of the rectum and rectosigmoid will be part of a yearly health examination. That this would insure a much higher percentage of early diagnosis is an inescapable conclusion, and in the light of present knowledge of treatment of malignant lesions of the large bowel it seems to be the cardinal factor to improve the satisfactory end-result.

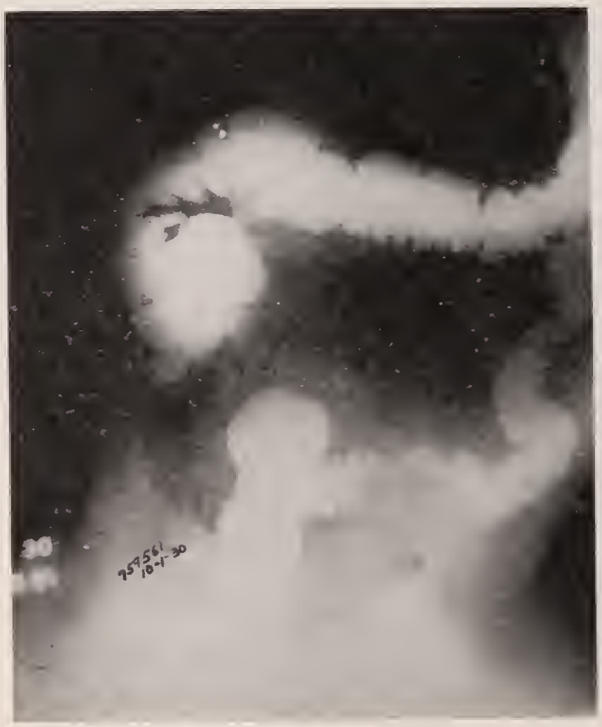

Fig. 3. Extensive filling defect in the sigmoid caused by a primary carcinoma in this portion of the bowel.

The sequence of symptoms which presents in carcinoma of the colon differs in the two segments. The large bowel should be divided arbitrarily into the right and left segments because of their difference physiologically and developmentally. The right half of the colon is the active, absorptive, functioning portion of the bowel, corresponding physiologically to the small bowel up to the papilla of Vater, being developed from the midgut with it. Beyond the middle of the transverse colon, the large bowel, sigmoid and rectum are but a storehouse for inspissated, formed feces, extracting therefrom only a small amount of fluids and noxious products which produce auto-intoxication. In the right half of the colon, there are three syndromes which should call attention to disease in this segment.

1. The first syndrome is the so-called dyspeptic syndrome which commonly is diagnose chronic appendicitis, which usually presents mil symptoms and which is associated with indefinite infrequent colicky pains, extending over a perio of months. The group of these cases is larg and often the condition is far advanced when th underlying lesion is discovered. There is no mass the symptoms are indefinite, roentgenologic examination is not sought, and unless exploratio is done for chronic appendicitis the lesion is likely to be well advanced on recognition.

2. In this syndrome profound anemia is th outstanding symptom, usually associated wit weakness and loss of weight and strength. Ther is no visible loss of blood but the anemia is present with concomitant decline in the entire picture. The patient's inability to carry on his work and unexplained weakness may drive him to a physician for an examination, which will demonstrate the condition of the blood and the lesion in the right half of the colon. The exact explanation of this type of anemia is not clear but i may be due to perverted function of the mucous membrane which impairs it to such an extent tha toxins from the broad, infected surface of th carcinoma are absorbed. Such anemia, in my experience, is much more often associated wit malignancy of the right half of the colon than with malignancy of the stomach. It is a commo textbook fallacy to distinguish carcinoma of th stomach from pernicious anemia. I believe it is equally or more important to distinguish carcinoma of the right half of the colon from perniciou anemia, for although the blood picture of pernicious anemia does not resemble the secondar anemia of either of the other conditions in th differential diagnosis, malignancy of the right half of the colon should be uppermost in one's mind.

3. The third syndrome is present in a relatively large group of cases. A mass or tumefaction is accidentally discovered in the right iliac fossa, which on further examination resolves itself int carcinoma. This lesion is more common than is generally believed, and likewise represents a type which affords the most favorable prognosis because usually the lesion is found in its earlie stages. Between 5 and 10 per cent of cases a the clinic fall into this group and are found o the examination of patients who come for re-examination, or who accompany relatives to the clinic, or who are being examined for some purpose entirely unrelated to the gastro-intestina tract.

Malignant lesions in the right half of the colon differ pathologically from those in the left half. Usually they are flat, ulcerating growths which are covered with protuberances resembling granulation tissue; they are situated almost invariably on the lateral wall of the colon and make an ideal surface for absorption, without obstruction. Obstruction does not occur in this segment because the content of the bowel is liquid and in most cases there is no tendency for the growth to encircle the lumen, which is greater here than elsewhere in the course of the colon. Also it is likely that growths in this segment will go on to perforation and the formation of abscess, rather than to obstruction. Rarely does a growth occur at the ileocecal valve, and for this reason, likewise, obstruction is rare. The growths usually occur at the juncture of the cecum with the ascending colon, although a definite percentage of them occur all along the course of the right half of the colon.

In the left half of the colon the syndrome of obstruction is the predominant feature of the symptoms. Here the growths tend to encircle the lumen of the bowel, the fecal content is hard and formed, and the anatomic make-up of the bowel all predispose, so to speak, to stenosis. Irritability of the bowel is common. Occasional upsets are noted, at which time diarrhea alternates with periods of constipation. Gradually borborygmus and increased flatulence develop, and as the stenosis increases the picture of obstruction, subacute or chronic, becomes outstanding. Visualization of peristalsis is possible only if subjects are extremely lean or if the contraction of the lumen of the bowel produces such obstruction as to bring about proximal dilatation. Tumefaction is much more common in the left half than in the right half of the colon, perhaps because of the greater accessibility of this half, but also because of the obstructive feature, which dams back the content of the bowel and causes dilatation. Occasionally elderly persons are able to point out definitely the point in the colon where the peristalsis stops. This is an old sign which was recognized by Morison, Moynihan and others many years ago, and is responsible for the aphorism that increased inability to move the bowel of elderly patients, without cathartics, is highly suggestive of malignancy of the large bowel. Blood in the stool or on the stool is usually present but obviously does not occur until the mucous membrane has ulcerated through, and is not an extremely early symptom in all cases. It is my belief that the blood should be bright red or that continual tests for occult blood should be positive before any significance can be attached to its presence. It may come from any portion of the alimentary tract. Bright red blood, in or on the stool, is pathognomonic of lesions of the rectum, not of the colon; in my experience, occult blood is more significant in the diagnosis of unusual tumors of the small bowel than of lesions of the colon.

There is a small group of cases, perhaps seen more frequently in a large city hospital, or a charity hospital, in which carcinoma of the colon produces sudden, complete obstruction of the bowel without previous premonitory symptoms or warning. This may be due to volvulus, intussusception, plugging of the lumen of the bowel, or swelling of an inflammatory process superimposed on the malignant lesion. Usually, however, the carcinomatous obstruction of the large bowel is of the chronic or subacute variety and, in conjunction with tumefaction, borborygmus, blood in the stools or other well-known signs of carcinoma in the left half of the colon, makes the diagnosis relatively accurate.

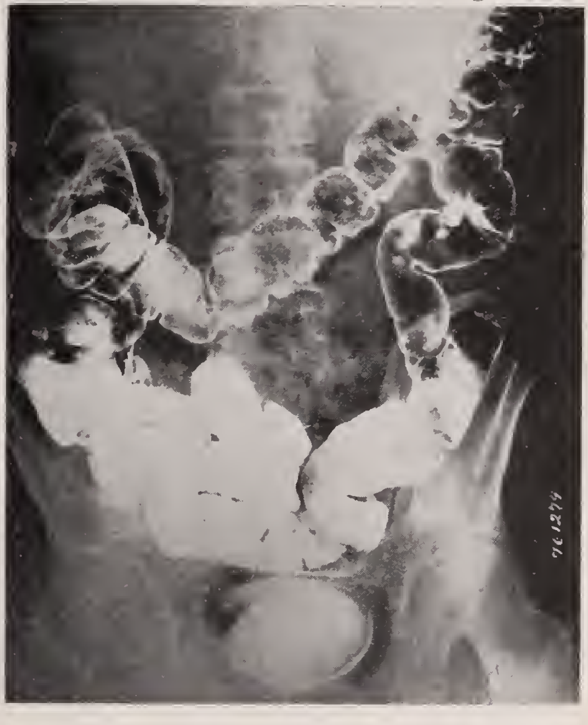

Fig. 4. Polypoid tumor distal to ascending colon. The pathologic diagnosis was adenofibroma.

In epitomizing the diagnostic evidences of carcinoma in any segment of the colon, it might be said that the most significant early symptoms are: (1) change in bowel habit, as evidenced by its increasing irritability, such as some type of diarrhea which is usually called by the layman mucous diarrhea, or alternating periods of diarrhea and constipation; (2) localizing pain or tenderness, not of marked severity but without a tendency to disappear; (3) tumefaction; (4) profound anemia, not associated with visible loss of blood, and (5) acute, subacute or chronic obstruction. When such a chain of symptoms presents itself an immediate and a complete examination of the entire gastrointestinal tract should be made by a competent roentgenologist, so that the presence or absence of an organic lesion of the large bowel may be demonstrated. I would strongly urge that the textbook symptoms of loss of weight, cachexia and dehydration are not symptoms of carcinoma of the large bowel in any stage at which helpful intervention may be instituted, but rather symptoms of advanced lesions with metastasis and approaching dissolution. The corollary to this is that the responsibility of waiting for the development of such a chain of evidence as to establish a diagnosis falls on the examining physician.

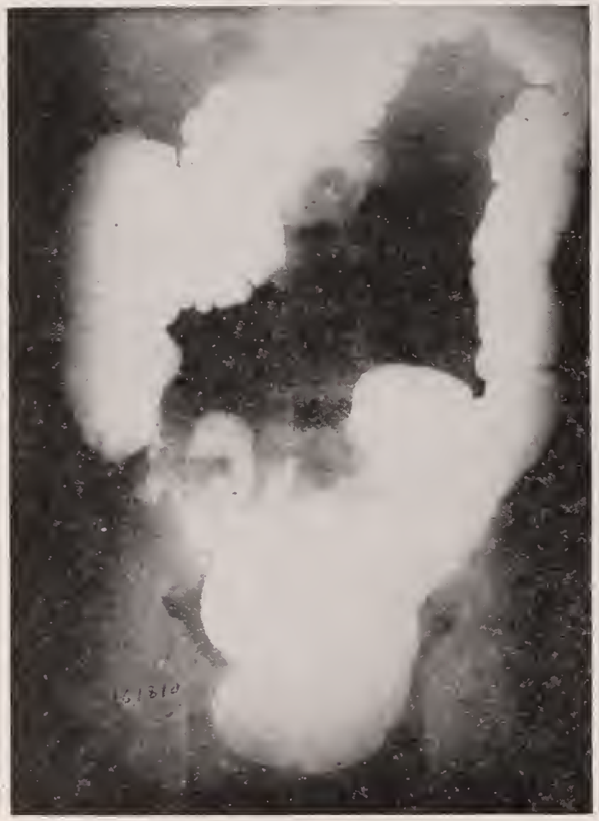

Fig. 5. Filling defect involving the cecum, proximal ascending colon and terminal ileum. Hyperplastic ileocecal tuberculosis.

TREATMENT

The treatment of carcinoma of the large bowel is always surgical and the extirpation of these growths, when recognized at a favorable time, although attended by relatively high hospital mortality in many instances, is likewise accompanied by such satisfactory end-results that with improvement and decrease in death rates, I think the acceptance of more standardized procedures and selection of cases will markedly increase attacks on these lesions. I shall not attempt a consideration of the various technical factors which are advantageously employed in resection of the colon but I should like to emphasize, if only slightly, certain fundamental principles. Unquestionably, the average patient with carcinoma of the colon who presents himself for examination and treatment is a relatively increased risk. That is, the carcinoma has been present probably for a comparatively long time; a certain amount of obstruction or absorption is present, and the accompanying dehydration and intoxication from absorption has already greatly undermined the patient's strength and resistance. Not only are these factors unfavorable but the colon, as an organ to be operated on, is not as favorably disposed anatomically as many other viscera. Its walls are thin, its contents are septic, and infection and complications, such as perforation and the formation of abscess or adhesions to adjacent viscera are not uncommon. This infection predisposes to peritonitis which is the greatest lethal factor. Consequently, rehabilitation, increase of resistance against local infection, and decompression against obstruction, are the three significant factors to be considered in any preoperative regimen. Carcinoma of the colon, except when obstruction is acute, does not demand an emergency operation, and time may be permitted to elapse to the advantage of the patient if measures which tend to increase factors of safety are employed. It should be remembered that chronic or even subacute obstruction of the large bowel is borne not too unsatisfactorily over a long period and, what is more important, is almost invariably relievable by the judicious administration of enemas, mild purgation, and the institution of a diet free of residue. Hospitalization, then, with the establishment of measures for decompression and, at the same time, the institution of measures which increase the general resistance of the patient, such as transfusion of blood, a diet high in calories, the reestablishment of the water balance, are of primary importance in the preoperative regimen.

Graded operative procedures are highly satisfactory in the treatment of the majority of these patients. A drainage operation, such as cecostomy or colostomy, as a preliminary step to resection and as a measure to decompress the large bowel, is exceedingly advantageous in a high percentage of cases. Undoubtedly, one may assume that in more than three-fourths of cases of carcinoma of the colon operation should be performed in multiple stages. I do not believe that primary extirpation of a growth with reestablishment of the lumen of the bowel is often indicated in the left half of the colon and I should be extremely hesitant to advocate single-stage hemicolectomy and ileocolstomy in the right half of the colon except in a small group of cases in which diagnosis has been made early.

The choice of an anesthetic in surgical procedures for carcinoma of the large bowel is not unimportant and it is my belief that spinal anesthesia, properly controlled, and administered by an expert anesthetist, whose duty it is to observe the patient not only during the operation but through the immediate postoperative reaction, is the most desirable type. This type is used as a routine in my cases under these conditions. Indiscriminate use of it in the hands of an inexpert anesthetist should be condemned for unquestionably there is increasing risk in its universal acceptance. There are many well-known advantages to spinal anesthesia, if the initial risk may be overcome, which make it the anesthetic of choice in these cases. A "silent abdomen" for twenty-four to forty-eight hours following operation is particularly desirable. This inhibits or prevents the spread of contaminating organisms which produce peritonitis, the most common fatal factor in these cases.

In the selection of the type of technical procedure for the two sides of the colon I believe it is well to bear in mind that for the right half of the colon around to the middle of the transverse colon, ileocolostomy, followed in two to three weeks by right hemicolectomy, is the most desirable procedure in the largest number of cases. I prefer to use an aseptic type of ileocolostomy between the terminal portion of the ileum and the transverse colon as the first step of the extirpation, making the operation over a clamp which I have devised for this purpose. In any carcinoma of the colon, the first step after opening the abdomen should be the thorough and systematic exploration of the entire abdomen and the search for distant metastasis. The liver should be explored first, and then the aortic lymph nodes and the nodes at the bifurcation of the iliac vessels; the pelvic peritoneum should be examined for implants. The growth, bcause of its infective character, the likelihood of the formation of abscess, and easy perforation, should be explored last. Gentleness in handling these growths is imperative because of the ease with which an unsuspected abscess may be ruptured or, in case this is not present, contamination may be spread from the local infection around the growth throughout the peritoneal cavity.

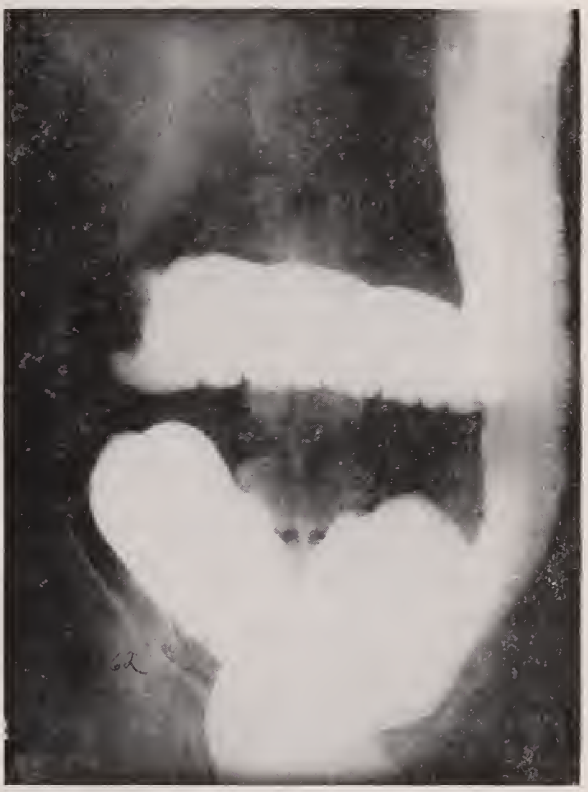

Fig. 6. Annular carcinoma in the hepatic flexure.

In the left half of the colon, the choice of operation, I believe, lies between an obstructive type of resection, or drainage, followed by subsequent resection and anastomosis, and in a third stage closure of the drainage wound. My own choice, in cases in which successful preoperative decompression has been carrid out, is an obstructive type of resection which, as its name implies, carries out removal of the growth at the first stage with radical resection of the gland-bearing areas in immediate juxtaposition to it, not only in the mesentery but in the lateral and mesial aspects of the posterior and lateral abdominal walls. The resection removes the growth radically and the ends of the bowel are closed with a clamp which is allowed to remain for forty-eight hours. In case of doubt about leaving the bowel completely obstructed for this length of time, decompression in the cecum or ileum may be done as an adjunct. The clamp which I use for aseptic anastomosis has proved advantageous in this type of operation, also. The peritoneum is snugged around the bowel itself and one tongue of it is brought under the bowel so that both limbs are wrapped closely in it; the bowel is not sutured.

At the end of forty-eight hours, the proximal blade is loosened and gas pressure is thus released. The clamp is allowed to remain on the distal end until it drops off. This type of resection which I have called obstructive resection differs from the Mikulicz operation in many respects in that it employs all of the advantageous features of an exteriorization procedure without the unhappy sequela of the original Mikulicz operation. There is no recurrence in the abdominal wall and the operation is radical resection instead of local removal, as is the original Mikulicz operation. I have employed it most satisfactorily in a large series of cases and in 1929 I resected thirty-one consecutive carcinomas of mobile segments of the colon according to this method with one death, a mortality of 3.2 per cent. It should be emphasized that the operation is not to be done in the presence of obstruction which has not been relieved before operation; this is the one important factor to recognize in choosing it over other procedures. The other method, colostomy and subsequent resection and anastomosis, is well understood and it is eminently satisfactory when employed under proper indications.

Mortality percentages in carcinoma of the colon, under cooperative treatment, vary from year to year, but I am confident that a constantly lower level is being approximated. The most important factor in considering mortality statistics, when they are at a reasonable level, is that of operability. If operability is low in dealing with carcinoma of the colon, mortality percentages will be low, but in the survey of the end-results, a corresponding decrease in survivors at the end of three and five years will be noted. With proper selection of operation, with due regard for operability, and adequate preliminary preparation, I believe hospital mortality figures below 10 per cent may become uniform. In 1929, in The Mayo Clinic, 775 operations were performed for chronic lesions of the large bowel and rectum with an immediate mortality of 8.6 per cent. During this time the lesions in 114 cases were found inoperable, on exploration, largely from hepatic metastasis, local fixation and metastasis, general abdominal metastasis, or extreme risk due to longstanding disease and debilitation. Of 381 malignant lesions of the large bowel and rectum, 221 were resected, an operability of 58 per cent for malignant lesions alone. One approaches the reduction of this hospital mortality with confidence by increasing the safety factors as experience in technical maneuvers and surgical judgment dictates. But I believe one should deprecate the narrowing of the horizon of operability to make a more favorable operative mortality, and until more adequate agents than surgery offer wide opportunity for cure or palliation to sufferers from carcinoma, I am convinced there is ample justification for attempting radical extirpation in all cases up to and frequently including those of border-line operability.

THE CHOICE OF AN ANESTHETIC*

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The field of anesthesia is the most undeveloped one in medicine. During the last few years much more attention and thought has been given to this subject as indicated by the ever increasing number of articles devoted to anesthetics and especially to spinal anesthesia appearing in surgical journals.

From knowing only a few anesthetics, we have come to know so many that we are hardly capable of picking out the one to use, however, each has some important use for certain conditions. The giving of an anesthetic as a specialty goes way back in history. Anesthesia is really as old as surgery. You remember that the Lord threw Adam into a deep sleep and took Eve out of his side and developed her from a rib. It took many centuries until the time of Vesalius before there was any man with character enough to say that man had an equal number of ribs on both sides. Before that time any man who said that man was not short on one side because of Eve, might lose his head instead of a rib. In the time of Nero there was a poppy syrup for burns, and Hippocrates had opium, mandrake and Indian hemp. That was about all the anesthesia that existed for many centuries, and the lack of good anesthesia induced rapid operating. It used to be said that surgeons like Pare could amputate a leg or could take off an arm at the shoulder joint in the twinkling of any eye, because the bulk of the anesthetic was provided by strong men and ropes.

About 1842, Long, in the little town of Athens in Georgia, witnessed the ether frolic of young men. Years and years ago in Ireland they had ether frolics, and down there in Athens, Georgia, they were having one of these ether frolics and some of the young men really went to sleep. Then Long did a little operating with the patient under the influence of ether. He took a wen from the neck of James Venable and operated on another man's neck also, but he did not make any public announcement that he had employed these procedures, doing his operating in the back room of his office. No general development of ether as an anesthetic can be attributed to Long.

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*Chairman's Address, Surgical Section, read before annual meeting Nebraska State Medical Association, Omaha, May 12-14, 1931.

Wells, a dentist, in 1845, tried out ether and nitrous oxide. In Dr. Morton he had one who might well be called a promoter. Dr. Morton was a graduate in medicine and took up dentistry and worked with Wells. The two men were just developing plate work and, with the plate work, developed ether and nitrous oxide anesthesia in removing teeth. In this way they could avoid trying to fit the plates over the snags, as had been done up to that time. The Massachusetts General Hospital had no provision for anesthesia. Dr. J. Collins Warren was operating there and he invited a number of surgeons to see ether used in surgery for the first time in 1846. Dr. Morton administered the ether anesthetic.

A member of Congress from Massachusetts, about 1853, stirred up by the interest in chloroform that had developed in England, suggested giving Dr. Morton $100,000 for first using ether for the relief of suffering. Then Long discovered what was going on. Long represented and proved that he had used ether first and that his patient, James Venable, had paid him two dollars, and had kept the receipt. The $100,000 was not given.

Chloroform came in and was pushed forward because it was of real benefit in childbirth, and its use was popularized when given to Queen Victoria at the birth of Prince Leopold in 1853 by the attending physician, James Y. Simpson. In 1879 the discovery of cocaine for local anesthesia was made.

In the old days the youngest internes gave the anesthetic; they were more interested in watching the operation than the patient. We have to credit many of the failures in those days to the anesthetist rather than to the anesthetic.

Ether anesthesia, since its introduction by Long eighty odd years ago, has been a wonderful boon to humanity. And it still is. However, it has certain elemental drawbacks, as all alert surgeons and wide-awake anesthetists recognize. Primarily, it is a surgeon's anesthetic but not the patient's. because it gives to the surgeon the possibilities of extreme relaxation, leaving the patient to bear the brunt of its after effects, even when expertly given. Gas-oxygen anesthesia and gas-oxygen combined with field-block have been of remarkable advantage in certain types of surgery, for with this form or combination, the patient may be given a most pleasing anesthetic with a minimum of disagreeable post-operative after effects, and the surgeon can secure, by proper cooperation, in most instances, the desired relaxation necessary for his mechanical procedures. However, in spinal anesthesia, we have a method which promises to prove a most ideal anesthetic from the viewpoint of both the surgeon and the patient for all surgery below the nipple line. It gives the surgeon that marvelously soft and quiet abdomen, or relaxation of the skeletal muscles in the case of surgery on the lower limbs, which facilitates to a remarkable degree the ease with which he can work out the mechanical features necessary to the performance of the required operation. Recent progress in the development and perfection of spinal anesthesia is truly remarkable. To quote one of our leading surgeons. "the introduction of spinal anesthesia into the daily operating routine is the greatest boon, not only to the surgeon, but to the patient as well, that has taken place since the advent of aseptic surgery."

I have used spinal anesthesia for ten years, only occasionally until 1927 and then adopted it in a more general way. At first I used it with fear and trembling, ever conscious of the fact that it was considered a dangerous agent and so it is if not skillfully given and I consider it a very difficult and tedious surgical operation in itself. One must use judgment. Judgment is knowledge plus experience. At first I used a medium sized needle with a bevel point and I found that more than half my cases had a postoperative headache; however, during the past year I have used a smaller needle with a darning needle point which seems to have eliminated the headaches almost entirely but making a successful tap is much more difficult with the latter needle as it is almost impossible to feel the needle pass through the dura of the cord and as a result the incidence of failures is much higher. I have failures now in about 5% of cases. I prefer to have the patient sitting across the operating table with the spine arched outward although in some cases it is necessary to have the patient lying on the side.

The site of the spinal tap depends upon the height of anesthesia desired and the level of the anesthesia depends upon three factors, viz.:

A. The site of injection.
B. The expansion or dilution of the anesthetic agent with the spinal fluid.
C. The force used in injecting the anesthetic agent.

In my early experience I had a few cases manifest alarming symptoms in respiratory distress, pallor, and absence of blood pressure readings, and no pulse could be felt at the wrist. This is now believed to be due to injecting the fluid too rapidly and with too much force. It seems best to use the lightest touch possible in injecting the fluid, consuming about five seconds for each cc. of fluid injected. When a relatively high anesthesia is wanted, for instance for cholecystectomy, the spinal fluid is drawn into the syringe sufficient to make 8 cc.'s and injection is made between the first and second lumbar vertebra. For operations in the lower abdomen and the lower extremities the injection is made in the third or fourth lumbar interspace.

Novocaine or nercaine were the anesthetic agents used until about one year ago. At that time I began using nupercaine which is derived from quinoline. Nupercaine has a distinct advantage in that the anesthetic action is much longer in duration. Novocaine anesthesia lasts about one hour and nupercaine five or six hours. Nupercaine also seems to produce less fall in blood pressure. Dr. John Lundy of the Mayo Clinic recently told me he had abandoned the use of nupercaine as it had proved too toxic to be considered a safe anesthetic agent. Ephedrine in 3/4 gr. dose is used as a routine to maintain the blood pressure and is usually given a few minutes before injecting the anesthetic agent.

Lahey's statement that spinal anesthesia is not indicated in bad risk cases, especially those with hypotension, seems logical reasoning.

All cases for spinal as well as those for general and local anesthesia should have preliminary medication. Sodium amytal grs. 3 the night before operation and six to nine grains an hour before the time for operation and morphine gr. 1/8 to 1/4 half hour later brings the patient to the operating room in a tranquil mental state that is beautiful to behold.

LOCAL ANESTHESIA

Regardless of what may be the relative merits of local and general anesthesia in hospital practice, local possesses many advantages over general as an office anesthetic. Thus the general practitioner, who may be situated far from hospital facilities and a good anesthetist, may increase his usefulness and the scope of his activities, by familiarizing himself with local anesthesia technic and equipping his office for its employment. Likewise the surgeon or surgical specialist may offer to his patients many of the advantages mentioned above and if fortified with an assistant, an office nurse and x-rays, may perform cystoscopies, tonsillectomies, reduce fractures, treat surgical lesions of the skin and rectum and a variety of industrial injuries.

Not many months ago there was an account in the Nebraska daily papers of the death of a child under general anesthesia undergoing an emergency operation for the removal of a crushed finger in a hospital. It is reasonable to assume that this child's stomach was full of food and vomited, aspirating food into the air passages so it became asphyxiated for I came near having the same experience during the year, with a little girl who pinched off part of one finger. Ethylene was given and after the amputation was completed she vomited a seemingly enormous quantity of food, sucking some of it into the trachea and for a few minutes, which seemed like ages, her life was despaired of but when she was suspended by her feet and artificial respiration produced the food was dislodged and she soon recovered. This teaches the lesson that it is better to use local anesthesia or defer the operation until the stomach is empty.

GENERAL ANESTHESIA

We have been using ethylene as one of our general anesthetics for four years and have been quite well satisfied with it where general anesthesia is indicated, however, we are using all forms of inhalation anesthesia less and less as experience with local and spinal increases, especially the latter in conjunction with a basic anesthetic as sodium amytal or nembutal.

A few attempts were made to use sodium amytal intravenously as a general anesthetic which was not satisfactory as it did not give sufficient relaxation without the addition of ethylene but the very smooth post-operative convalescence led us to employ the same agents by mouth as basic anesthetics. The preliminary use of sodium amytal in preventing respiratory spasm and muscular activity during the subsequent induction of general anesthesia affords an important safeguard against cardiac embarrassment especially in athletic patients and those suffering from cardiac diseases or high blood pressure. Sodium amytal in advance makes ethylene anesthesia smooth, deep, satisfactory and free from asphyxia. The ease of induction of general anesthesia and the reduction or entire absence of post-anesthetic nausea and vomiting have been especially pleasing to the patient. In children the preliminary use of sodium amytal is unusually satisfactory since it does away with terror usually present before and during the induction of anesthesia.

Willard Bartlett states in *Surgery, Gynecology and Obstetrics,* April, 1930, pp. 775-777, that there is dissatisfaction with our present anesthetics, as commonly employed, is shown by the number of new methods of inducing anesthesia put forward in recent years both here and abroad. The most significant feature of the viewpoint prompting this movement is its indication of a changing conception of the function of an anesthetic. One has now a right to expect that an anesthetic shall do more than abolish pain during operation and give the necessary relaxation with the minimum risk. From an increasing regard for the needs of a surgical patient as an individual and not as a lesion or a disordered mechanism, there comes a sense of how greatly the patient's burden could be lifted if he could be promised that he would know nothing of what takes place from the time of going to sleep on the night before operation until the day following operation. An ideal anesthetic would provide such an oblivion without complicating induction or adding to the risk and morbidity.

Surgery has been robbed of much of its terror by the use of preoperative hypnotics or so-called basic anesthetics. This in part may be due to the teaching of Crile upon the subject of anoci association.

We as surgeons in our zeal and anxiety to do better operations, have failed to grasp the importance of the emotional side of the patient's reaction which we call fear. This is best demonstrated in hyperthyroid cases. The interests of the patients should transcend all others.

It is a revelation and a joy to witness any surgical case properly prepared by premedication come to the operating room entirely oblivious to his surroundings without a trace of fear or anxiety. Many of these patients will have no memory of the operation or of that terrifying journey to the operation room. Some of them will ask hours after the operation is over, when the operation is to be performed and days later will tell you it was all like a dream. I feel that it is our duty to offer this great boon of basic anesthesia to our patients who are so enthusiastic about its use.

CONCLUSIONS

Surely there is no place in anesthesia for any method to be used as a routine, and with so great a variety of agents and methods at one's disposal there is no acceptable excuse for fitting the patient to the anesthetic rather than the anesthetic to the patient.

REFERENCES

Mayo, C. H.: Mayo Clinic Bulletin, December 18, 1929.

Romberger, Floyd T.: "Spinal Anesthesia", American Journal Surgery, September, 1929.

Farr, Robert Emmett: Local Anesthesia. American Journal Surgery, February, 1930.

Lundy, John S.: Proceedings of First Pan Pacific Surgical Conference, 1929.

DISCUSSION

J. W. DUNCAN, M. D. (Omaha): I have enjoyed Dr. Willis' paper very much. It has brought up several points for discussion a few of which I will touch upon.

For general anesthesia in the hands of most persons, ether probably remains the most safe and most satisfactory agent. It can be safely displaced only after the technic of use of gas, spinal, and local anesthetics becomes more widely developed than they are at the present time.

One of the chief advantages of gas anesthesia has been that when properly administered, induction was quiet and not noxious to the patient. With the use of the barbiturates this advantage has been extended to ether. Another advantage has been the quick recovery of the patient with little or no nausea.

To me the greatest disadvantage in the use of gas anesthesia has been the absence of relaxation required for some abdominal work. I do not believe it is reasonable practice to persist in gas administration when the substitution or addition of ether will facilitate the surgery.

In every case I induce spinal anesthesia with the patient lying upon the side held with the knees approximating the face. I will agree that it is usually easier to make the tap with the patient erect and bent forward but this involves a change of position after either the needle or the anesthetic is introduced either one of which, I believe, is undesirable.

When I began the use of spinal anesthesia I employed spinocain exclusively. I had a considerable percentage of failures and there was often much delay in appearance of anesthesia. I do not believe spinocain has any advantages that will compensate for the disadvantages it is rather generally admitted to possess.

Dr. Willis said the use of a small needle will largely eliminate headaches. With this I thoroughly agree. In the several hundred cases in which I have used spinal anesthesia I recall only 2 in which there was unusual complaint of headache and neither of these was persistent.

I think the elevation of the foot of the bed for 24 hours after operation is essential. I believe this aids also in reducing the incidence of headaches. It also makes it difficult for the patient to rise suddenly in bed or raise the head neither of which is desirable. I have had a small percentage of failures to secure anesthesia but none for several months. There can be no doubt that occasionally, even though the novocain solution is deposited within the dural sac anesthesia will not result.

No matter what the type of operation, or the height of anesthesia desired, I invariably make the tap between the 1st and 2nd, or 2nd and 3rd lumbar vertebrae. High anesthesia is secured by greater dilution of the drug and by dropping the head of the table. I have never failed to obtain satisfactory anesthesia for work any place below the diaphragm with 300 milligrams of novocain in 4 cc. of fluid injected at the rate of .5 cc. a second with the patient immediately placed in a 10 degree Trendelenberg position. I have given as high as 500 milligrams of novocain intradurally in one dose without any bad effect. Larger doses of the drug naturally increase the duration of the anesthesia.

Earlier in my experience with spinal anesthesia I often had alarming drops on blood pressure. This can be largely avoided by the use of ephedrine given just before the anesthesia is induced. For low anesthesia, such as is required for work on the lower extremities or herniotomy, little or no ephedrine is used. The average dose I use is one grain for abdominal work. I use 2 or 3 grains for those cases in which the anesthesia required must reach the diaphragm since with greater dilutions one gets greater drops in pressure.

With me, the contraindications for spinal anesthesia have become fewer and fewer. I do not, however, use it in hypertension. These people are apt to undergo sudden and alarming drops in pressure. Even the administration of ephedrine will not prevent it in the more or less immobile circulatory tree and the cerebral anemia that results is apt to be dangerous and there may be a urinary suppression develop. I recall a patient who had a preoperative systolic blood pressure of 280 which reached 120 in spite of 3 grains of ephedrine.

I believe it is dangerous in most cases to repeat a dose of ephedrine in the face of a serious drop in blood pressure. I have never done it excepting twice. I believe, if necessary, one had better resort to epinephrine.

Most essential or even imperative, I think, is proper preoperative medication. I have finally come to use a preparation of Abbott's Nembutal. I give 3 grains of this drug by mouth and ¼ of morphine, and 1/100th of scopolamin one hour or 1½ hours before the operation. The patients come to the surgery oblivious to their surroundings.

Preliminary to gas anesthesia I never use anything but morphine and atropin. Other agents. it is my belief, depress the respiration enough to make the gas anesthesia unsatisfactory.

I believe that much can be expected from the so-called Basal anesthetics. I used sodium amytal intravenously for a short time in a small number of cases. It has not appeared to me that it has any advantage over the drug given by mouth and has some disadvantages.

L. D. McGUIRE, M. D. (Omaha): I have used sodium amytal intravenously in several hundred cases. In the last two hundred, I have used it as a hypnotic, giving enough to put the patient to sleep. As soon as he apparently goes to sleep, we start ether. By that method, he awakens quickly and has none of the delirium, and requires only one-third the amount of ether, and he is extremely satisfied. I do not like gas following it, for this reason: The patient under amytal breathes quietly. Under gas, he breathes more vigorously, and it is a strain on his respiratory apparatus.

Dr. Duncan said he did not see any difference in giving it intravenously or by mouth. I think it has this advantage intravenously: You always get a hypnotic dose. If the patient is large and husky, or weak, or what not, it makes no difference. Inject it slowly until he goes to sleep. You have a definite hypnotic dose. I do not think you can regulate it with the same accurate degree by mouth.

Patients on whom we have used amytal are extremely well satisfied. Patients keep coming and asking for this type. I believe it is here to stay. It is really not an anesthetic, but a hypnotic adjunct we must continue to use.

B. B. DAVIS, M. D. (Omaha): I enjoyed this paper very much. I think a little discussion on anesthetics once a year is valuable.

We are getting nearer and nearer to the ideal anesthetic. We have a lot of things to play with, and little by little we are getting ideas from them. When we reach the ideal anesthetic, we will have one with the following qualifications:

(1) It will allow the patient to get away from the fear which a nervous patient has beforehand. (2) It will produce an anesthesia that is complete and safe. (3) It will produce such a relaxation, especially in abdominal work, that we will have no trouble as far as tense muscles are concerned. (4) It will leave the patient after the operation in the best possible condition, with the fewest complications resulting from it.

I do not think we are ready yet to decide upon one anesthetic over another. We have this list to choose from, and the combination of the various things, and we must fit the anesthetic to the case in point—not only to the patient, but to the area that must be operated.

I want to say we have had wonderfully pleasing results, in cases to which it is suited, with spinal anesthesia. I want to illustrate the way it works in intestinal obstruction or strangulated hernia. The most serious thing I have run up against in an intestinal obstruction is to have so much distension that the intestines protrude through the incision in spite of all our efforts to keep them in. I think spinal anesthesia comes nearer being the ideal anesthetic than any other in a case of this kind.

I had a case not long ago suffering from an intestinal obstruction due to paresis of the intestine following an operation. She got to the point I thought we were going to lose her. She was greatly distended. She did not have a peritonitis, but I felt we must do something. We had used different methods to get rid of the gas, but she was slowly sinking. We decided upon doing a jejunostomy. Formerly, I had done these under local anesthesia. Having in mind what it sometimes does in such cases, we injected spinal anesthesia before beginning the work, and suddenly the gas simply popped away. She was relieved, and did not have to have the operation.

I have heard of a number of surgeons about to operate for intestinal obstruction, where they have gotten complete relief by use of the spinal anesthetic without operating.

The total relaxation you get in using spinal anesthesia is one of the things that commend it. It is not applicable to all cases. Block anesthesia does a lot of good on the extremities when you have a case in too serious a condition for general anesthesia.

I think within the next few years we ought to be in a position so that we can give anesthetics in such a way as to meet the four requirements I have mentioned.

W. J. ARRASMITH, M. D. (Grand Island): I enjoyed listening to Dr. Willis' paper very much.

The field of anesthesia has had a tremendous impetus forward the past few years. The many methods and preparations have grown to such proportions that one is led to believe we will soon be confronted with the situation of employing a highly specialized person to do nothing but administer the anesthetics.

The ideal anesthetic unfortunately has not been found. The numerous explorations into this field simply prove that we are still searching for something better. If the indirect method of giving an anesthetic through the respiratory tract could be eliminated many complications and disagreeable features of anesthesia could be avoided. If the direct or intravenous route, on the other hand, could be made safe, give good relaxation, take away anxiety and produce sleep, it would probably approach the ideal.

I have used spinal anesthesia and use it yet. However, we must always bear in mind that this form of anesthesia is not entirely devoid of danger. It has its advantages and disadvantages and should by no means be used under all circumstances and in all conditions. It should be administered with care and judgment.

I think gas anesthesia, especially when administered as a supplement to one of the barbital preparations, offers an excellent method of producing general anesthesia. If necessary, ether can be given along with the gas to produce better relaxation.

In his paper Doctor Willis neglected to mention one important anesthetic. He spoke of local anesthesia. I will speak of block anesthesia. Block anesthesia has a large field in operative work. It can be used in practically any part of the body. Above the diaphragm it can be used with considerable safety, while spinal anesthesia in this portion of the body offers considerable risk. In block anesthesia the novocaine is not injected into the spinal canal but is injected into the nerves as they emerge from the canal.

I want to call attention to the many uses of transsacral and caudal anesthesia. Any kind of lower pelvic work such as vaginal hysterectomy, perineorrhaphy, repair of the cervix, etc., can be done. Also prostatectomy and any kind of rectal work can be accomplished. The anesthetic is safe, not hard to administer and gives excellent results. Block anesthesia in the extremities can be used for extensive operations to great advantage and with little risk.

To me the anesthetic problem sifts down to a reiteration of Dr. Willis' statement that "the anesthetic should be made to fit the patient and not the patient the anesthetic". The mental as well as the physical status of the patient must have consideration. Learn the various anesthetics, their method of administration, indications and contra-indications, then use good judgment in your selection for the individual case at hand.

R. RUSSEL BEST, M. D. (Omaha): If we elect to use a general anesthetic, it is an advantage both to the patient and the surgeon when we add local novocain infiltration to the abdominal wall. This decreases the amount of general anesthesia that is necessary and also gives a more relaxed abdominal wall. I noticed this type of anesthetic being used particularly by English surgeons.

Personally I use spinal anesthesia in over 80% of my cases. There are certain principles about using it. It is like using a shot gun. There are a large number of good shot guns, but if one learns how to use one particular gun, he can procure more ducks than if he changes his gun every season. This principle holds true in choosing a drug for spinal anesthesia. Personally, I think novocain is just as good as any of the series and it is considerably cheaper than some of the other drugs on the market.

In the upper abdomen, I believe 200 milligrams of novocain dissolved in 2½ cc's. of spinal fluid will give good results. When working in the lower abdomen and only as high as the umbilicus, I use 150 milligrams dissolved in 2 cc's. of spinal fluid. In hernias, I have found a 100 milligrams dissolved in 1½ cc's. of spinal fluid is sufficient. Lately, in my rectal work, I have been experimenting with a very small dose of novocain. I am using only 50 milligrams of novocain crystals dissolved in 1 cc. of spinal fluid. Up to date the results have been excellent and with this small amount of anesthetic, I have no fear of circulatory or respiratory depression.

I agree with Doctor Duncan that high blood pressure and low blood pressure are contra-indications for spinal anesthesia. If you take an individual with a blood pressure of 220 and suddenly reduce it to 100, thrombosis is likely to occur. The danger with low blood pressure is self-explanatory.

As regard to pulmonary postoperative complications, I think we have as many following spinal anesthetics as general anesthetics. However, the complications following spinal anesthetics are usually not so severe, the patient recovers and the surgeon sleeps better at night.

Personally, I believe Doctor Willis' paper is most timely and is of interest to everyone.

J. E. SUMMERS, M. D. (Omaha): It is amusing to listen to this discussion. Two years ago, a paper on Spinal Anesthesia was read by Dr. Duncan before the Douglas County Medical Society. I brought out some of my own experiences where I had operated under spinal anesthesia, from the top of the head to the soles of the feet. They threw cold water on us and told of their mishaps, and said spinal anesthesia should not be used except in extreme situations. Now, you hear them talking as if they had originated the treatment.

I have seen two deaths on the table from what I considered too much morphin given as a preliminary to spinal anesthesia. One was my own patient, and the other was at a clinic I attended, a gallbladder operation.

I do not know of sodium amytal except one experience. I gave twelve grains preliminary to spinal anesthesia to a hernia patient. I was very much interested. As I was ready to pick up the knife, my patient stopped breathing, and it took us over an hour to restore breathing. I operated on that patient a week later under local anesthesia.

I believe with Dr. Duncan that ether is the anesthetic we know most about, and until we know more about these others, we had better stick to it as a standard.

LUCIAN STARK, M. D. (Norfolk): In a visit with Dr. Waters of the University of Wisconsin in April, he said they have worked out a new material superior to Amytal, which will probably appear this year.

DR. WILLIS (closing): I am highly gratified by the discussion this paper has evoked.

In regard to the position of the patient, I commenced to use spinal anesthesia by having the patient sit up. Where the patient is in good condition, I have found no reason to change. I have not had any bad results. In the beginning, I had some respiratory distress that gave considerable alarm. I believe it was due to the fact I shot the fluid in too hard, rather than that the patient was sitting up. I have used spinocain only a few times, and it gave me two bad scares, so I have not used it for two years.

I elevate the foot of the patient's bed for twelve hours after operation to prevent headaches.

I have used nupercain in one hundred cases without bad results. I was surprised to hear Dr. J. S. Lundy say he considered it not as safe as some other agents. I was interested in Dr. Best using such a small dose of novocain in rectal work. In a recent number of the American Surgical Journal, there are deaths reported from spinal anesthesia, in New York. In every case they used three hundred milligrams of novocain. I have never used over two hundred milligrams, and do not think I shall.

I concede the point that block anesthesia is useful. I could not cover the field in so short a paper. I have used it also.

Dr. McGuire states he injected sodium amytal intravenously after the patient was brought to the operating room. I think it has a psychic advantage to give the patient the amytal before he goes to the operating room. One of the things you want is psychic effect.

The experience of Dr. Davis with spinal anesthesia in an intestinal obstruction is to be emphasized. I had an experience like that once.

ROENTGENOLOGICAL DIAGNOSIS OF LESIONS IN ESOPHAGUS*

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The use of the roentgen ray has become very important as an aid in diagnosis of lesions of the esophagus. From an early date cardiospasm has been recognized and a diagnosis confirmed with the roentgen ray. The roentgen ray examination of the esophagus is one which is attended with the least discomfort to the patient and one which, furthermore, usually gives a considerable amount of information. Stricture of chemical or traumatic origin, diverticula, deviations, and intrusions of the esophagus due to neoplasms are usually capable of early diagnosis.

The usual procedures are quite sufficient for the demonstration of pathology so very evident in advanced cases. However, instructing the patient to swallow a thick mixture, does not allow one to demonstrate the early changes in the esophagus, as the bolus does not completely fill the lumen. It is evident that the earlier the diagnosis of esophageal changes can be made, the brighter are the prospects for therapeutic help.

We now have a method of using bougies made of soft gelatin and barium. These are cut to various sizes, and the patient allowed to swallow. The fluoroscope is used to note the passage of the bougies, and negatives can be made to record the exact point in the esophagus that obstruction occurs. The advantages of these bougies over barium filled capsules, is that, if an obstruction is met, the patient can swallow a little warm water which will liquify the gelatin and allow it to pass down into the stomach. When a capsule meets an obstruction it is often hard to dislodge, and the patient suffers considerable discomfort. Very early changes of the esophagus are thus able to be recognized. Thus carcinoma of the esophagus can be found early. Conversely, patients complaining of esophageal discomfort, can be thoroughly examined with larger bougies and a negative diagnosis can be returned with greater certainty than by other methods.

It is hoped that with the establishment of an early diagnosis of malignancy of the esophagus, therapeutic measures may be more successful. It is quite evident that the treatment of carcinoma of the esophagus is still a reproach to the medical profession.

Case No. 13373, male, aged 42, referred by Dr. Rubendall. Gives a history of difficulty in swallowing, for the past seven years. When he is at home, he can hardly notice any manifestations, but is very sensitive when among strangers. Even drinking cold water will cause a spasm of the esophagus.

Roentgenograms show bougies retained in different parts of entire esophagus. The fluoroscopic screen shows that he is able to move these bougies up from cardiac end the entire length of esophagus.

Case No. 12894, male, aged 52, referred by Dr. Glenn Miller. This patient has only experienced difficulty in swallowing for the past month. Has lost some weight.

Roentgenograms show definite cancer in mid-third of esophagus. Shows ragged deformity when bougie is swallowed and allowed to dissolve at site of obstruction. This man died in about six weeks.

The roentgen ray with the barium meal has proved to be the most important factor in diagnosis of diverticuli of the esophagus. Diverticula are usually situated on the lateral or posterior wall of the esophagus, and are seen on the fluoroscopic screen as a barium filled sac, smooth in outline, with a rounded and broadened base, unless there has been food retention or adhesions, in which case, there will be irregularity. A sac fills and overflows at the opening; often a fixed level line shows and the normal esophagus can be seen clearly throughout, especially when the patient is examined in the upright position, but all angles and positions should be observed.

Diverticula are extremely rare at the lower end of the esophagus. When they occur here, they are usually situated on the anterior wall and project to the left; as a rule they are small and finger-like and their appearance is distinctive; if they are large, however, they might easily be mistaken for partial herniation of the stomach through the hiatus, or for the sacculated folding which sometimes results from cardiospasm with elongation of the esophagus. Rarely, a low diverticulum co-exists with cardiospasm.

Of particular interest among the abnormalities to which this region is subject, is herniation of the stomach through the diaphragm. Its roentgenological features are varied and sometimes spectacular. It is often mistaken for other conditions, and it often passes undiscovered. Hernia through the hiatus is usually congenital and associated with a short esophagus. Before the barium is given, the gastric gas bubble may be visible above the diaphragm and behind the heart. As the barium descends, it is inclined to lag in the lower part of the esophagus and then enters the cardia, which is obviously above the diaphragmatic arch. The herniated portion of the stomach, which of course, varies in size, may surround the apparently invaginated lower end of the esophagus symmetrically, or it may project toward either side, more often to the left. Occasionally a gastric ulcer with a manifest niche is seen at the level of the constriction produced by the hiatus.

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*Read before annual meeting, Nebraska State Medical Association, Omaha, May 12-14, 1931.

Below the diaphragm the stomach is diminished in size in proportion to the extent of the herniation above, and the pyloric end may be drawn over to the median line or to the left of the spine. The shadow of the diaphragmatic arch is distinguishable, and it moves normally on respiration. The apparent rarity of this lesion previous to the advent of the roentgen ray examination is not difficult to explain. This type of hernia has neither a definite history nor typical signs, so that the clinical diagnosis is extremely difficult. As this lesion occurs in a situation very difficult of access surgically, and in a region seldom explored during abdominal operations, the surgeon is not apt to discover the existence of the hernia. At autopsy, the muscular relaxation and decreased intra-abdominal pressure, make it easy to overlook the presence of this condition. The roentgen examination is therefore the best method of revealing the hernia and is usually the only means of arriving at a diagnosis.

Roentgen study is of the utmost importance in esophageal orifice hernia, because it usually is the only means of arriving at a diagnosis before operation. The technic of the roentgen examination is difficult and must be carried out with accuracy and care. The presence of a hernia may be detected occasionally with the patient in the erect position. If the sac is filled with air, the gas bubble can be visualized above the diaphragm. The herniated portion of the stomach may contain both air and liquid, in which case the fluid level with gas above gives a clue to the diagnosis. Even on the ingestion of the opaque meal, fluoroscopic studies with the patient standing, only rarely demonstrate the presence of a hernia. As a rule the examination in the standing position gives no intimation of the existence of a hernia. If the roentgen studies are carried out in this position only, as is done in some clinics, these hernias will be overlooked. It is with the patient lying on the fluoroscopic table, and the stomach well filled with the opaque meal, that the hernia is more apt to be visualized. There is no single position in which it is possible to bring the lesion into view in every instance. It is essential to observe the patient in the prone, supine, and oblique positions. Deep inhalation and exhalation should be advised during the time of observation. Pressure on the abdomen with a palpator will force the gastric contents into the cardiac end of the stomach, lowering the head of the table or placing a pillow under the buttocks is an important maneuver.

Roentgenograms of this lesion are difficult to obtain, and even with the most careful technic, frequently fail to show a hernia. This due to the fact that the hernia is usually relatively small and is overlapped by the diaphragm, the cardiac shadow, the spine, and in females, the breasts. Numerous negatives in different positions are necessary. In several instances, the hernia has been visualized fluoroscopically, but could not be demonstrated on the roentgenograms. The most satisfactory procedure for overcoming this difficulty is to determine the best position for demonstrating the lesion with the fluoroscope, and then to replace the screen with a negative and make the exposure with the same tube that was used during fluoroscopy.

After the ingestion of the barium meal, the herniated portion of the stomach is seen as a round or ovoid shadow lying just above the diaphram in the region of the lower end of the esophagus. The hernia is usually near or in the median line and projects more to the right than the lesser curvature. As a rule, there is a direct connection between the opaque shadow in the upper portion of the cardia and the barium in the hernia. The two being united by an isthmus at a level with the esophageal hiatus.

Case No. 17099: Mrs. E. H., female, aged 44, married, admitted to the Evangelical Covenant Hospital, Omaha, on July 17th, 1930, Dr. Max Emmert, surgeon. Three months previous had an attack of "flu", with fever, sore throat, enlarged cervical glands, and vomiting. The vomiting has increased in frequency until now she can hardly retain any food. Her heart showed enlargement from the start. She has lost about 53 pounds in weight. Nausea associated with vomiting persists all the time. Gives past history of occasionally having choking spells when eating. Had a feeling that the food did not go down properly. Never vomited blood. Has some pain referred to umbilical region.

Fluoroscope shows heart enlarged with displacement of esophagus to the right. No retention of barium media in esophagus . Has a small hypertonic type of stomach, with marked filling defect at pyloric end, (this was after the ingestion of about one-half a glass of barium media and no doubt due to stomach not being entirely filled). When patient was placed in the Trendelenburg position, the cardiac end of stomach was drawn up through the diaphragm. Roentgenograms show an air bubble in cardiac end of stomach above diaphragm. She had poor function of gallbladder, examined with Graham Cole dye.

A constant symptom is substernal pain, with regurgitation of food in supine position. Non-traumatic diaphragmatic hernia of the fundes of the stomach, is much more common than formerly thought. The x-ray is the only means we have to arrive at a diagnosis. A surprisingly large number of diaphragmatic hernias in adults, unsuspected during life, have been discovered accidentally at autopsy.

The roentgenologist can help determine the type of treatment by observing the size of the hernia, the symptoms when the hernial sac is filled, and the amount of dilatation of the esophagus. Also he can suggest the site of the operation, whether above or below the diaphragm, by determining the position of the diaphragm, the width of the angle at the ensiform, and the extent of ossification seen in the costochondral cartilage.

According to Dr. George W. Holmes, of Boston, this is a lesion that is hard to demonstrate and requires careful technique to work out.

Therefore, I want to make a plea for a more careful examination of the esophagus as a routine measure in the gastro-intestinal roentgen examination.

REFERENCES

Goodwin, P. B.: Diverticula of the Esophagus, Radiology, p. 472, Dec., 1929.

Moore, A. B.: Benign Lesions in Cardiac Portions of Esophagus and Stomach, Journal, A. M. A., p. 12, Jan. 4, 1930.

Hickey, P. M.: A Method for Measuring the Lumen of the Esophagus. Radiology, p. 469, December, 1929.

Ritvo, Max: Hernia of the Stomach Through the Esophageal Orifice of the Diaphragm, Journal A. M. A., p. 15, Jan. 4, 1930.

DISCUSSION

A. L. MILLER, M. D. (Kimball): We men in the country see few of these cases, and do not recognize them if we see them. I do not think I have recognized many of the cases. I do ordinary x-ray work. The thing that appealed to me in this paper is the position of the patient in outlining diaphragmatic hernia or spastic conditions of the esophagus. Our nervous individuals have a tendency to regurgitate air or food.

I was interested in the use of the gelatin bougie in locating these different strictures, as outlined by Dr. Overgaard.

ADOLPH SACHS, M. D. (Omaha): The careful roentgenological examination of the esophagus is of great importance and will often reveal important facts in the diagnosis of heart lesions.

In mitral stenosis the auricle dilates and displaces the esophagus posteriorly which can readily be seen by giving a thick barium bolus and examining the patient in the semi-lateral position. In doubtful cases this will often clear up the diagnosis.

Routine examination of the esophagus should be made in all doubtful valvular lesions.

I feel that the essayist has called our attention to an extremely important examination of a part of the alimentary tract that is often superficially examined.

DR. OVERGAARD (closing): Dr. Sachs hit the nail on the head when he mentioned the dilatation of the heart. In this patient, her heart displaced the esophagus to the right, which caused a pull on cardiac end of stomach, thus producing a hernia, with vomiting over long period of time.

This paper was written as a plea for a more careful examination of the esophagus.

I thank you.

THE USES OF DIGITALIS IN HEART FAILURE*

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The use of digitalis in medicine was first introduced by Withering in 1785. Cushny, in his latest book, states that so little progress was made in the knowledge of the use of digitalis during the nineteenth century that an article on this subject written in 1810 could have been quoted as representing the general view in 1900. The main reason for this, Cushny believes, was the fact that during the nineteenth century morbid anatomy dominated the viewpoint in medicine.

During this epoch medicine was on the basis of structural change and therapeutic nihilism was thought to be a sign of scientific progress. The conception of heart failure was valvular defects, affections of the pericardium and degeneration of the heart muscle, pathological conditions naturally unaltered by drugs. Only about thirty years ago it became recognized solely through the papers of Mackenzie, that disturbance of function of the myocardium was an important factor in all cases of heart failure and that the diagnosis of the disturbance of function was equally as important as the diagnosis of the pathological changes.

From the observation of the effects of digitalis bodies on patients with heart failure, Mackenzie showed that data obtained from pharmacologists of the action of drugs on animals with normal hearts were of little value. He made deranged function of the heart muscle the basis for the criteria of the indication for digitalis, paying little or no attention to valvular stenoses or insufficiencies, structural changes in the myocardium, or, whether the blood pressure was high or low. These observations by Mackenzie are generally accepted.

To understand how digitalis may modify the function of the myocardium requires knowledge of its effect on the fundamental properties of the heart muscle. The researches of Gaskell and Engelman showed that the heart muscle contains five fundamental properties. Digitalis increases the function of some of these, while it depresses others.

Depresses Conductivity: That the property of conductivity is depressed by digitalis is well known.

Increases Tonicity: According to Mackenzie, pathological dilatation of the heart and cardiac dropsy cannot occur without an impairment of the property of tonicity. All pharmacologists agree that digitalis causes a marked increase in the tone of the frog's heart. There is abundant clinical evidence that digitalis increases tone, lessens dilatation and relieves such symptoms as dyspnoea and dropsy in many cases, even when the rhythm is normal.

Increases Irritability: The evidence that digitalis, especially in toxic cases, causes a marked increase in the property of irritability seems conclusive. The first cardiac sign of toxic doses is an occasional extra-systole and later on a couple rhythm. Most writers agree that such irregularities as extra-systoles, paroxysmal tachycardia, auricular flutter and auricular fibrillation are closely allied; and that all are due to an increase in the irritability of the heart muscle. Any or all of these irregularities may be produced by excessive doses of digitalis. In fact, the greater danger of toxic doses is an increase of irritability that may lead to ventricular fibrillation and sudden death, a condition that occurs much oftener than is generally supposed.

Mode of Action: The function of the heart is influenced by digitalis; in part, by stimulating the inhibitory mechanism; and, in part, by direct action on the muscle cells. Only in patients with auricular fibrillation, when the bundle of His is especially susceptible to digitalis, is the reduction in heart rate a constant effect. Marked slowing of the rate is occasionally seen, however, with a normal rhythm.

According to Cushny, digitalis is deposited in the muscle cells and exists in a chemical or physical state, just as "corrosive sublimate combines with the protein of microbes". The fixation of digitalis in the muscle cells explains its delayed action and, also, the continued effect for two or three weeks after its administration is discontinued.

The types of heart failure where digitalis is definitely indicated are as follows:

I. *Auricular Fibrillation*: The cardinal indication for the exhibition of digitalis is auricular fibrillation and the indications for digitalis in this form of arrythmia are just as definite when there is no dropsy, or other signs of so-called "congestive heart failure", or "broken compensation", as when such findings are present. These symptoms are secondary due to the fatigue of the ventricle caused by the rapid, irregular contractions of the heart and will seldom, if ever, occur if the fibrillation is properly treated. Its effect in this condition is due to its depressing the property of conductivity—thus lessening the heart rate.

The bundle of His is especially susceptible to the action of digitalis in auricular fibrillation and the ventricular rate may be halved or more. The fatigue of the ventricle is relieved only by reduction in rate and the rate is the only gauge to dosage. If it were not for its specific action in auricular fibrillation, digitalis would probably never have been known as a heart remedy. Withering's first cases were undoubtedly fibrillation cases.

The two most important points in the treatment of this condition are: (1) To give enough of the drug to bring the rate down to the range of normal; (2) never to discontinue it for weeks or even many days at a time.

II. *Auricular Flutter*: This is a disturbance of rhythm where the auricules beat forcibly and rapidly—240 to 400 times a minute—with the ventricular rate half or less, and usually regular. This is a rare form of arrythmia, being found in less than 5 per cent of cases. If this type of arrythmia cannot be controlled with quinidine, digitalis is indicated.

III. *Impaired Tonicity*: The characteristic signs of loss of tone of the myocardium are edema, cyanosis, swollen liver and so on. This condition, now called "congestive heart failure", was formerly known as "broken compensation".

When such symptoms are associated with auricular fibrillation they are practically always secondary to the fibrillation; and, of course, digitalis to lessen the rapid, irregular, contraction of the ventricles acts in a specific manner. But, in about one-third of the cases of loss of tone, dilatation and edema, the rhythm is normal.

Opinions differ as to the usefulness of digitalis in these cases. Many accept the statement by Lewis that "reduction of the accelerated ventricular rate in auricular fibrillation is the only known action of the drug upon the human heart." Christian, Luten, Brooks and many others report increased diuresis and relief of symptoms in many patients with a normal rhythm following the administration of digitalis. In some cases improvement occurred without any reduction in the rate.

In my opinion improvement in these patients can best be explained by digitalis stimulating the property of tonicity.

CONTRA-INDICATIONS FOR THE USE OF DIGITALIS

I. *Increased Irritability*: (a) Extrasystoles: The evidence that digitalis increases the property of irritability seems conclusive. One of the commonest cardiac signs of toxic doses of digitalis is frequent or, even, an occasional extrasystole. If no other disturbance in the function of the heart is found than an extrasystole, digitalis is contra-indicated. But, if occuring with a dilated heart, the extrasystoles should be ignored as far as the indications for digitalis are concerned.

(b) Paroxysmal tachycardia: Although digitalis has been used to arrest the paroxysm, or prevent the recurrence of paroxysmal tachycardia, on the theory of vagus stimulation, the results for obvious reasons have been unsatisfactory and disappointing. Both paroxysmal tachycardia and extrasystoles are produced by digitalis. Therefore, the proper remedy for these irregularities is an agent that will lessen the irritability—such as quinidine.

II. *Impaired Conductivity*: As conductivity is depressed by digitalis, it is harmful in incomplete or intraventricular block. If the block is complete, digitalis can do no harm and if there is dilatation it may be given for its effect on tonicity.

III. *Myocardial Infarction*: In patients with coronary occlusion, there is a tendency to the development of abnormal rhythms. This may be favored by digitalis. Later on, if dilatation occurs and no contra-indications exist, it may be given for its effect on tonicity.

In angina pectoris, of course, digitalis should not be used unless there is some evidence of heart failure.

DIGITALIS IN PNEUMONIA

The question whether the use of digitalis in pneumonia does good or harm has been much discussed and is still unsettled. Some clinicians, such as Stuart, Hart and Luten believe that it does harm and is contra-indicated. Many others oppose this view.

The effects should be considered mainly in relation to disturbance of rhythm, especially fibrillation and its possible effect in increasing tonicity—thus lessening the tendency to right heart dilatation. Cohn advocates digitalization of all cases so that, in the event that fibrillation develops, the rate will be easier controlled. Harlow Brooks, from the analysis of a large number of fatal cases, found that most of these developed edema of the lungs, which he attributed in most instances to failure of the right heart.

Statistics showing the effect of therapeutic doses on the mortality rate are inconclusive, but Paul White, in the study of 85 cases at the Massachusetts General Hospital, found that the death rate was nearly double in patients given small doses than in patients digitalized early.

It is a well known fact that edema of the lungs is about the most serious condition that can develop in a pneumonia patient and that this is due to right heart failure, at least in some patients, seems to be a justifiable assumption. It is also an established fact that the toxins in infectious diseases, especially in pneumonia, have a tendency to depress the tonicity of the heart muscle. Since digitalis increases tonicity, full digitalization of all pneumonia patients early in the disease should lessen the tendency to right heart dilatation. Good effects may be obtained without any fall in the rate.

It is perfectly plausible that digitalis, increasing the already irritable muscle, may increase the tendency to fibrillation, but if it should occur in a well digitalized heart there will not be much increase of rate and the derangement of rhythm cannot do much harm. If fibrillation develops in a pneumonia patient who has not had digitalis, it adds greatly to the gravity of the disease.

Mackenzie says that he has never seen a patient with pneumonia who developed an irregular pulse during the course of the disease that recovered. I have seen one. A patient 64 years old developed fibrillation on the sixth day. When seen a few hours after the onset of the irregular pulse he was unconscious, practically pulseless; the heart rate was between 170 and 180 and wholly irregular. He was given two 1-120 grain doses of strophanthin intravenously four hours a part. One hour after the second dose he regained consciousness and the heart rate was 96. The following day he had his crisis.

The objections to the use of digitalis in pneumonia are largely theoretical and are not supported either by our knowledge of the pharmacological action of the drug nor by statistics on the mortality rate. In my opinion, all pneumonia patients should be digitalized within the first few days of their illness by the oral administration of any reliable U. S. P. preparation. Toxic doses should be cautiously avoided on account of their tendency to produce abnormal rhythms.

Effects on a Goiter Heart: It is not only illogical to give digitalis for the fast, regular pulse of hyperthyroidism, but there are definite contraindications for its use. That the irritability of the heart muscle is markedly increased in hyperthyroidism is shown by the frequent occurrence of such irregularities as extrasystoles, paroxysmal tachycardia, auricular flutter, and auricular fibrillation. All these irregularities may be produced in goiter patients with large or, even, moderate doses of digitalis. The physiological fact that both thyroxin and digitalis increase the fundamental property of irritability of the heart muscle, corroborates the clinical observation that digitalis is positively harmful in hyperthyroidism—except in cases of fibrillation.

Such an eminent authority as Plummer condemns the use of digitalis in all goiter patients—even when there is fibrillation and dropsy. Many clinicians agree with Plummer in this statement. His conclusions are doubtless based on the fact that digitalis increasese the already over irritable goiter heart.

But when fibrillation is present the first effect of digitalis is to depress conductivity and slow the rate. Common sense indicates that any patient, goiter or no goiter, is much better off with a heart rate 90 or less, comfortable, free from dyspnoea and from dropsy, than with a heart rate between 140 and 170, water-logged, feeble pulse, cold extremities, sitting up in bed and gasping for breath. The difference between these two conditions is frequently digitalis or no digitalis.

We use digitalis for fibrillation in goiter patients just the same as for fibrillation due to other causes. We find that about 20% to 30% more digitalis is required on account of the hyperthyroidism, and even then the reduction in rate is not as marked as in non-thyroid cases. Grant of St. Louis advises pushing the digitalis until the heart is slowed even if it requires ten to twenty times the amount given in fibrillation from other causes. This sounds a little radical.

Fibrillation is the only cardiac condition caused by goiter for which digitalis should be used. It should not be used for dilatation of the heart associated with dropsy if the rhythm is normal, nor should digitalis be given to a patient with a regular heart before operation to prevent post-operative fibrillation. Digitalis may cause fibrillation. If fibrillation develops, give massive doses of digitalis by the mouth or strophanthin intravenously. To prevent fibrillation give quinidine which lessens irritability.

Evidences of Toxic Doses: These may be either cardiac or general.

1. Cardiac:

(a) Coupling of the beats due to extrasystoles or, even, an occasional extrasystole.

(b) Impaired conduction causing heart block, recognized clinically by slowing of the rate or fairly regularly missed beats, and graphically by a prolonged P-R interval.

(c) Phasic arrythmia, paroxysmal tachycardia or auricular flutter.

(d) Ventricular tachycardia, which may cause ventricular fibrillation and sudden death. (Reid reports a number of deaths due to over dosage. I have had a few in my own practice).

2. General Symptoms. (These may precede, accompany or occur without any cardiac signs whatever).

(a) Loss of appetite, nausea and vomiting. The stomach symptoms are produced by the action of digitalis on the heart and not by irritating the gastric mucus membrane. The gastric symptoms are fairly constant in toxic doses—but they may be absent.

(b) Nervous system. Headache is fairly common. Such symptoms as amblyopia, yellow vision, mental confusion, delirium and aphasia are by no means rare—especially in patients advanced in years, and maybe the only signs of toxic doses.

Dosage and Preparation: There are two rules for dosage. One of these is to give enough digitalis—regardless of the preparation used—until the desired therapeutic effect is obtained. The other is to use the body weight of the patient, as suggested by Eggleston, for the estimation of the approximate amount of the drug required.

The Eggleston method of dosage is calculated from the body weight and the amount required to digitalize is approximately 1 cc. of the tincture, 10 cc. of the infusion or 1½ grains of the powdered leaf for each 10 pounds of body weight. Therefore, a patient weighting 166 pounds will require 16.6 cc. of the tincture; 1.66 grams of the powdered leaf; or 116.2 cc. of the infusion. The only unfortunate thing about this calculation is that the metric system is used. However, in this it is not only necessary to remember that one cc. is equivalent to fifteen minims (35 to 40 drops) and that nearly all the capsules and tablets on the market contain 1½ grains of the powdered leaf which equals 1 cc. of the tincture.

When it is necessary to keep a patient digitalized for months or years, as for instance in continued fibrillation, the daily amount required is about the same as the quantity eliminated daily, which is approximately 22 minims (55 drops) of the tincture or 2.25 grains of the powdered leaf.

Preparations and Method of Administration: In deciding on the best preparation of digitalis to use, I cannot do more than quote the statement made by Mackenzie many times: "When the tincture fails I have found no results from any other preparation."

One often hears the statement that some patients can't take digitalis by the mouth because it "upsets the stomach". The nausea and vomiting caused by any of the digitalis preparations are due to the action of the drug on the heart muscle and to the stimulation of the vagus. It is not due to irritation of the mucous membrane of the stomach.

The manufacturers of digitalis preparations have capitalized many of the erroneous ideas about the action of the drug. The market is flooded with a number of preparations with claims that they do not cause gastric disturbances, are devoid of cumulative effects and that they may be given subcutaneously or intravenously. Regarding these claims I will quote two statements by Cushny: *"Any preparation of digitalis that is not cumulative or does not produce nausea is inert"*. Concerning preparations for hypodermic use he says: *"There is no suitable preparation of digitalis for subcutaneous, intramuscular, or intravenous use, and the only form which is generally approved for emergency is strophanthin intravenously"*. These statements by Cushny represent my own view exactly.

Tincture: Any standardized pharmocopoeial tincture may be used. There is no advantage whatever in using any of the special tinctures. All the U. S. P., tinctures are defatted, equally as potent—or more so—than the proprietary preparations and are much cheaper. The U. S. P., tinctures made by any of the reputable manufacturers cost the druggist ten cents an ounce, while the same preparation sold under a trade name such as "digitol" or "digifortis" costs fifty to sixty cents an ounce.

Digitol is claimed to be a "fat free tincture". So are all U. S. P. tinctures.

Infusion: Dose ten times the tincture. It deteriorates rapidly, varies in strength. There is no use to bother with it.

Powdered leaf: Dose 1½ grains corresponds to 15 minims of the tincture. There are many tablets on the market, all with extravagant claims as representing some superior quality of the leaf. All of these bear the trade name of some manufacturer and are sold at exorbitant prices.

One of the best known and most widely used is the *Digitan* tablet. This is a standardized and reliable preparation, probably as good but no better than the leaf in capsules. One hundred of these tablets cost the druggist $5.40 as compared with 19 cents for the same quantity of the U. S. P. leaf.

Some other tables in common use such as *Digifoline*, *Digitoria* and *Digilusin* are a little cheaper, but they all cost from five to twenty times as much as the U. S. P. powdered leaf.

Digitalin: Some pharmaceutical houses still make hypodermic tablets containing 1-100 grain. In less than 1-10 grain it has no effect on the heart. The average dose is ¼ grain. It is not uniform in composition and very irritating when injected. There is no reason why it should ever be used.

Digilen: This is quite a popular preparation both for oral administration and for hypodermic use. "It is less than half as strong as the tincture (Cushny)" and is an unstable preparation.

I know of no worse therapy than the giving of digitalis or strophanthus compounds. Such preparations are made and put on the market by drug houses solely for commercial purposes and doctors should not be misled by them. Digitalis should not be combined with any other drug. It should be given alone, or not at all.

Digitalis should never be given intravenously except in cases of emergency. About two-thirds of the time and two-thirds of the amount are required to produce an effect as when it is given by the mouth. In emergency cases we give strophanthin (B. & W. preparation) intravenously—never subcutaneously. It is a reliable preparation, has the same effect as digitalis on the heart muscle, and the margin of safety between therapeutic and toxis doses seems to be as great or greater than with digitalis preparations.

DISCUSSION

H. J. LEHNHOFF, M. D., (Lincoln): I should like to ask what particular brand of tincture of digitalis he used, and what particular leaf he used; and if there is any way of selecting them? Second, under what conditions do you use digitalis in acute infections? Third, if you have to continue its use over a number of weeks or months, is there anything to cleaning up the digitalis heart with such preparations as diuretin?

DR. HERRICK: I did not get the name of that preparation being used on the case the doctor was called to see. I should like to get the name of the preparation that made a Missouri democrat vote for Hoover.

DR. BOHAN: As far as the preparation of the tincture is concerned, we use the U. S. P. tincture of any of the reliable pharmaceutical houses. Parke-Davis is as good as any.

As to the second question, you have two ways of determining when you have given a patient too much digitalis. One is the signs of the therapeutic effect of a toxic dose, and the other is that the body weight is of some value, especially when the rhythm is normal.

Third, the effect of digitalis in acute infections was covered by what I said in acute pneumonia. Unless you have a failure of the muscle—digitalis is given for developing frequency of the muscle—there is not much danger.

DR. LEHNHOFF: I mean getting rid of the digitalis—starting over again.

DR. BOHAN, (closing): They would give the patient a course of digitalis like you do mercury—three times a day for twelve days, and then stop. That is one of the great mistakes made in auricular fibrillation. As long as his fibrillation continues, I should kep him under continuous effect of the digitalis. Give him enough so that it reaches a certain concentration in the tissues. Suppose you get his heart slowed and he is feeling good. He wants to stop, and you let him. It takes him two weeks to get out from under the effect.

As far as Dr. Herrick's question is concerned, from reliable reports that come to me, this compound is used pretty extensively over the State of Missouri.

MASTOID INFECTIONS IN CHILDREN*

B. M. KULLY, M. D.,
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The frequency of middle ear and mastoid infections in children and the ever present threat of latent mastoiditis in association with such conditions in children as gastrointeritis, malnutrition and unexplained pyrexia are of sufficient importance to warrant our recurrent consideration.

The anatomy of the middle ear and mastoid in children differs essentially from that of the adult and these differences are reflected in the pathologic and clinical pictures presented. The eustachian tube of the infant is shorter, straighter and with a larger lumen than that of the adult, an important factor in the increased incidence of middle ear infections in children. The proximity of infected adenoid tissue, not only in the nasopharynx, but throughout the lumen of the tube and even in the tympanic cavity itself, is another factor. The tympanic membrane in early life is thicker and much more resistant to spontaneous perforation than in the adult. This has a definite surgical bearing. The middle ear and mastoid cavities at birth are filled with a gelatinous, embryonic tissue, consisting of undifferentiated connective tissue containing a few spindle cells. Resorption commences in the hypotympanum, at birth, as soon as air enters the tympanic cavity and is usually but not always complete at the end of the first year. As this connective tissue is absorbed, there is left behind a bridgework of redundent folds, particularly in the epitympanum. In the presence of an inflammatory process, these folds are sometimes sufficient to separate the epitympanum from the rest of the tympanic cavity. This explains why a myringotomy will relieve a suppurative process in the cavity of the lower tympanum and will frequently fail to relieve a suppuration involving the embryonic tissue and folds of the epitympanum and antrum.

The tympanic cavity of the child is of the same size as of the adult. The mastoid antrum is relatively and absolutely larger. In proportion to body weight however, their size and absorptive areas are relatively from ten to fifteen times that of the adult. This fact and that demonstrated by Bryant that the lymphatics of the tympanic cavity of the infant are mort permeable than in the adult, may well account for the frequency and severity of toxemia in middle ear suppuration in infants.

The mucosa of the tympanic cavity is directly continuous with that of the mastoid antrum and cells through the aditus. Except in the infrequent cases in which the aditus is closed, the middle ear and mastoid cavities are essentially one. For practical purposes every acute otitis media is associated with an acute mastoiditis. This does not necessarily indicate a surgical mastoiditis, however. The large majority of patients with acute otitis media and its associated mastoiditis do not require mastoid surgery.

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*Read before Nebraska State Medical Association annual meeting, Omaha, May 12, 1931.

The problem of deciding the indications for mastoid surgery rests upon knowledge of the pathology involved. A mastoiditis becomes surgical under one or all of three conditions: Firstly, extension of the infection through the mucous membrane with involvement of the osseous tissue and bone necrosis; secondly, extension of the infection through the veins and possibly the lymphatics, with blood stream infection or threatened or actual intracranial complications; thirdly, toxemia from continued absorption from the middle ear and mastoid foci. Unfortunately, these pathologic changes are not always reflected in clinical pictures sufficiently complete for early recognition.

Clinically, mastoiditis in children is of two types, the acute or evident mastoiditis and the latent mastoiditis. The acute mastoiditis is characterized by sudden onset, with acute symptoms unmistakably directed to the middle ear and mastoid. An acute otitis media, with a discharge through a spontaneous or surgical perforation, subsequent mastoid swelling and tenderness with other symptoms of mastoid necrosis or retention, forms a picture sufficiently typical for diagnostic needs. Such cases, however, rarely become surgical before the eighth day. Early mastoid tenderness, no matter how severe, is of no surgical significance, as it is present early in all cases of otitis media. The severity of the mastoid tenderness at this stage is dependent largely upon the degree of pneumatization present in the mastoid cells and the amount of retained secretion. Such early tenderness usually subsides rapidly on incision of the tympanic membrane with drainage of the middle ear and mastoid cavities. Tenderness that recurs, especially after the first week, is indicative of bone involvement and necrosis and is a surgical indication.

Elevation of temperature is usually present in children the first few days of an acute otitis and mastoiditis, but unless associated with chills, is of little importance. Persistence of or recurrence of fever after the first week, however, if other conditions, such as pyelitis or central pneumonia are ruled out, is of surgical importance. Frequently elevation of temperature is the first sign of an oncoming complication.

Roentgenograms taken in early cases of acute otitis media almost invariably show cloudiness of the mastoid cells and are without surgical significance. The haziness is due to the swelling of the mastoid mucosa and to the exudation in its cells, a condition we know to be present. To perform a mastoid operation in the first few days of an acute otitis media and mastoiditis, simply because the x-ray examination reveals cloudiness of the mastoid cells is without justification.

It is my opinion that far more cases of mastoiditis are operated too early, than are operated too late. Certain it is that the patients operated upon in the first few days of their infection have the more protracted and stormy convalescence and what is more important, the higher mortality. To operate before the body has mobilized its resistance, both local and general is not to lessen the incidence of complications but to increase it, owing to the new absorptive channels, both veinous and lymphatic that are surgically opened up. The general surgeon does not immediately operate upon a patient with an early cellulitis or lymphangitis. The situations are analogous.

A mastoiditis becomes surgical in the first week, only in the presence of threatened intracranial complications and blood stream infections. Even here, it must be remembered that such complications can be caused by extension of infections from the middle ear cavity, as well as from the mastoid and lateral sinus. If the initial chill is repeated, however, the mastoid should be opened and the lateral sinus investigated. In one of my patients, I operated upon and uncovered a thrombosed lateral sinus seventy-two hours after the onset of the acute otitis media. Such cases are indeed uncommon.

The indications for the mastoid operation during the second or third week, are much more definite. Recurrence of mastoid tenderness, especially if associated with swelling and edema of the mastoid process indicates bone necrosis. Swelling of the superior canal wall is also significant. Recurrence of fever in the second week or thereafter is of great importance. If other causes for the fever are not present, a mastoid operation is indicated. Persistence of headache on the affected side may mean exposure of, or involvement of the dura. If the headache is severe in or about the eye on the affected side, it may signify infection of the petrous tip, as emphasized by Kopetzky. This is particularly true if an external rectus paralysis is present. Persistence of deafness into the second or third week is an important indication for mastoid surgery.

Persistence of aural discharge, for a period of several weeks, without other mastoid symptoms is an indication for mastoid surgery only when other contributing factors, such as hypertrophied adenoids, infected tonsils, dietary deficiencies and et caetera have been previously corrected. A modern otologist need rarely if ever permit an acute otitis or mastoiditis to develop a chronic aural discharge.

During the second week or after, operation upon an uncomplicated mastoiditis is a relatively safe procedure. Reaction is silght and convalescence is usually rapid. If there are active symptoms present, it is far safer to open the mastoid than to treat expectantly. The suddeness with which a serious complication may appear in an expectantly treated mastoiditis must always be borne in mind.

The latent mastoiditis is quite different from the acute condition we have just discussed. It is limited to infants, usually under eighteen months of age. The onset is insidious. The condition is masked by the severity of the symptoms of the associated condition, usually a gastrointeritis or a prolonged cachexia. An unexplained pyrexia may also be cause for a latent mastoiditis. A twelve month old infant recently came under my observation with a history of a recurrent fever, ranging to one hundred and five degrees, of ten weeks duration. Examination revealed a latent mastoiditis and a rapid recovery followed operation. Consideration of the relationship between the mastoiditis and the gastrointeritis for example, is not within the scope of this paper. Whether the mastoiditis is primary or secondary or as frequently seems terminal, is not of paramount importance. It certainly forms a heavy load for a very sick infant to carry, the burden of which I feel frequently determines the final and fatal outcome. The operation can be quickly and easily performed under local anaesthesia. Though I have operated a number of very sick infants, I have seen no evidence of increased shock from the procedure. I believe that it should be performed as soon as the diagnosis is made. The operation, however, should certainly not be performed upon a presumptuous diagnosis of mastoiditis, simply because a gastrointeritis is present. There must be definite findings in the otoscopic examination. All of my patients presented a thickening of the drum membrane with a dull grayish swelling, almost a fullness, about the posterior circumference. Enlarged blood vessels in this area of the drum were also frequently seen.

In conclusion, the acute mastoiditis is associated for practical purposes with every case of acute otitis media. Knowledge of the anatomy and pathology, with careful and repeated observations are essential for the proper comprehension of surgical indications. The increasing frequency of reports in cases of latent mastoiditis emphasizes the importance of careful otoscopic examination in every child that comes under our observation.

DISCUSSION

F. F. TEAL, M. D., (Lincoln): I have listened with interest to this paper. I think Dr. Kully has covered practically everything of importance in the diagnosis and handling of these cases. I was interested particularly in that part of his paper referring to the wave of operating on these small infants for gastro-intestinal conditions. The old-timers had to take a back seat unless they were willing to open practically every case of gastro-enteric disturbance in these small infants.

Personally, I protested against indiscriminate opening of these mastoids, and have lived long enough to see the wave abate. We now have certain definite factors which must be present before we open these cases, which the doctor has outlined.

It was my boast for a long time I never opened a mastoid that did not require operation. When the x-ray men were diagnosing cases of mastoiditis, I began to open cases that, to my chagrin, I found were not necessary. In the early days of the x-ray procedure, they were diagnosing cases of acute mastoiditis that were not surgical. I have no doubt I overlooked cases before the x-ray era, that should have been opened.

I think we are getting down to a rational basis. I am glad to have Dr. Kully stress practically all the important points necessary. The safest guide, up to a certain point, is the white cell count. Still, we have had cases of mastoiditis in which the child is very sick, and there has not been a high white cell count. I have had cases which have been through a hard siege of influenza, with accompanying mastoiditis. Their resistance goes down and their white cell count goes down after it had been high. You get 8,000 to 12,000 white cells and you are puzzled as to whether you have a mastoid condition.

I think the x-ray men are now of real service to us. It is pretty well determined the mastoid process is practically the same on both sides. If you have a unilateral affliction and take the x-rays and make comparisons, you can determine what you have.

Dr. Kully has well stated the temperature does not mean anything, up to a certain point. Sometimes they run a higher temperature after the operation than before. You must not overlook possible pyelitis or pneumonia in these cases. I think the doctor has covered the points in this discussion, and I am certainly glad to have heard it.

HERMAN M. JAHR, M. D., (Omaha): I am very glad to hear the conservative attitude our nose and throat friends take in the matter of mastoid infections and ear infections in children. We had gotten to a point where if a baby did not get along well on feeding, the first thing we thought of was the ear or the mastoid. I have known of mastoids being opened up to settle the problem of nutrition. These ideas came from St. Louis and Iowa City, with radical sinous and mastoid operations.

Of our babies having trouble with nutrition, I think not nearly as many show mastoid involvement as we have been led to believe. I think, too, the mastoid should not be opened unless it shows definite signs of pathology. I am glad to see the trend the other way. Until recently, we have gone into mastoids too recklessly.

THE EUSTACHIAN TUBE*

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It is a common statement in textbooks and papers contributed to our leading otological journals that the greatest common factor in aural pathology is infection or sepsis, and the products of its introduction. Ninety per cent of the work of otologists is an effort to control the effect of infection in the ear, whose main portal of entry is the eustachian tube.

This manner of regarding the eustachian tube, elevates it to a position more important to human enjoyment, than many other tubes also subject to infection.

According to Tweedie: Bartolomeo Eustachius in 1564 first gave a good anatomical description and his name to this connection between the cavity of the tympanum and entrance to the nasopharynx. Eustachius said: "The knowledge of this canal will be of extreme value to doctors in their right use of medicines because in the future they will know that even the most dense material can be discharged from the ears, not by narrow ducts but by a broad passage, either by an effort on the part of nature or by the help of medicine." He evidently was our first "Specialist on the Ear."

In the next 400 years we add the names of (1) Valsalva, who devised the useless method of self inflation that bears his name; (2) Mayer of Copenhagen who (1868) first advised the removal of adenoids towards relief or cure of otitis media; (3) Politizer who introduced the air douche which is still an important therapeutic measure in certain tubal and tympanic conditions; (4) Killian, who first recognized the importance of nasal normality to a healthy eustachian physiology.

Until the last 5 years we may epitomize our physiologic and pathologic knowledge of the canal as follows:

1. It acts as a normal exit for normal tympanic secretion. The canal and tympanum being lined by a cylindrical ciliated mucous membrane and secreting enough mucous to produce tension in a middle ear in 6 to 10 hours if no exit is at hand.

2. It provides a means of maintaining an equality of air pressure on each side of the ear drum and this permits free transmission of aerial vibration to the inner tympanic wall.

3. It shares in the general inflammation associated with acute or chronic nasopharyngitis and thus acts as a guard against septic invasion of the middle ear.

4. As this inflammatory guard breaks down we get infected middle ears.

5. Thus, the tube is a big factor in the occurrence of the major portion of aural pathology. (Tweedie).

One anatomical point must be pointed out that was known early—that the tube in children was shorter and wider, with the tympanum or middle ear orifice, level or below the level of the pharyngeal orifice. This factor explains why it is so easy to get foreign body (wood, etc.) inflammation of baby and childhood ears. A baby lying on its side or back and being fed is extremely susceptible to such traumatism, as the act of swallowing opens the short wide direct tube, hence foreign matter may easily arrive in the tympanic space.

So, in the past 400 years, the above is a brief resume of what is known. Hence, the therapeutics of the tube and middle ear have all been directed at nasal operations to remove obstructions, as adenoids, polpyi, chronic enlarged posterior turbinal tissue, deflected septums and spurs. To the tube empirical applications to the fossa of Rosemueller, and into the tube inflations and the use of catheters with dry and medicated bougies to dilate the tube. All these to reduce inflammation and render patent the canal itself.

What scientifically has been added to our armamentarium?

1. Fleming and others (1928) have shown that tears and mucous are much more potent than are the common chemical antiseptics in the strength in which they are employed. If this is so, then good therapeutics would invite an increased flow of mucous in all beginning infections. Nature does this but empirical man feeds the case rhinitis tablets or atropine to "dry up" the cold and hence defeats nature's purpose.

Dr. McDonald of Omaha has contributed more to the physiology of the ciliated mucous membrane than any other person. It is impossible to recount all his work but here is his general summary:

1. Ciliated epithelium, as demonstrated in the amphibian, is subject to acceleration through stimulation of the sympathetic, and retardation through stimulation of parasympathetic nerves.

2. It is also accelerated by the sympathomimetic chemicals, epinephrin (adrenalin) and ephedrin, and retarded by the parasympathomimetic chemical, pilocarpin. Atropin gives mixed effects, accelerating the cilia apparently by parasympathetic blocking, but also slowing propulsion by drying and thickening the moisture upon the cilia.

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*Read before the annual meeting, Nebraska State Medical Association, Omaha, May 12-14, 1931.

3. Ciliary activity is absolutely dependent for function upon a surface film of moisture, being retarded and then paralyzed by gradual dehydration. This holds true for the cilia for the respiratory system (trachea) of the mammal.

4. The effect of cold in slowing, and finally paralyzing, the action of ciliated epithelium was abundantly verified for both amphibia and mammal.

5. Excess of moisture modifies the extent and direction of ciliary propulsion, by causing gravity currents which flow above those cilia produced, and in a direction determined by the shape and position of the part.

Of course, this applies only to cilial epithelium and its mechanical action in preventing infection and traumatisms, but such was not known before. Recently it has been found that ephedrine can be used much more extensively and for months without serious results on the cells. So we are gradually learning our therapy for the tube.

Yates and other workers have demonstrated that the cilial flow from the sinuses, especially the antrum and post ethmoidial, is about the Eustachian tube orifice and over the tonsils.

The conclusion to draw is that infected sinuses are a great source of tubal and tonsillar infection, which is daily being demonstrated.

Of course, some conditions such as atrophic rhinitis and ozena do not respond to such deductions. Atrophic rhinitis rarely causes a suppurative aural lesion yet here the cilia are gone and the mucous secretion is scanty. What guards the tympanum? Why doesn't every blow of the nose by the patient throw foreign matter into the wide open tube? In various allergic and familiar conditions such as hay fever; the hydrops mucosae of Lewis; extreme polyphoid (allergic) degeneration; here the mucosae is abnormal, with slow and lost cilia and the mucous changed, yet septic invasion of the tube is rare during acute reaction. Why? A lot of work is still necessary upon the mucous membrane before we can answer many questions.

The recent demonstration of reticulo-endothilial tissue in large quantities in the tube, especially the pharyngeal end, may have a bit to do with the prevention of infection in the tube in such cases and all cases in fact.

In conclusion we may say the eustachian tube is the potent source of middle ear infection and of certain types of acute and chronic deafness. Its protective features are: (1) Its normal inflammatory reaction; (2) its ciliated action; (3) its mucous supply; (4) the reticulo endothelial tissue pervading its mouth; (5) the lymph nodes in the mouth and the fossa of Rosemueller.

To maintain a normal physiology requires a proper humidity of the atmosphere in which we live, a proper and especially equable temperature, lack of infection in the sinuses, proper aeration in the nose, and proper nasal hygiene in childhood. It is the mother squeezing a child's nose and saying "blow your nose" with the resultant back fire into the tubes of the ears that causes a lot of grief. Diving and then blowing the nose in the same bad manner is a bad thing for ears especially when performed in super heated indoor pools.

We have learned that all medication should not be in continuous or repeated aqueous flushing of the mucous surfaces of the nose or sinuses but that mineral oil is more helpful as a carrier for what few medicaments are needed in the tube. We are aware that complete scientific knowledge of the physiology of the tube is scant and must be greatly amplified before some chronic tubal catarrhs and infections can be eliminated or prevented. In fact, preventing by establishing early in life a proper nasal hygiene is most important in causing the functioning ear.

DISCUSSION

FREDERICK TEAL, Sr., M. D. (Lincoln): I dislike to see this paper pass without some discussion. One thing I should like to speak about is the fact that as soon as this tube is closed from an acute cold, or what not, you have a beginning obstruction. It comes to our knowledge frequently that a patient has been told he will outgrow it, so nothing is done about it. A lot of help can be given patients when the symptoms first develop. After they have gone for a long time with this tube closed, we cannot bring back their hearing. You have air pressure outside, the middle ear and a vacuum inside. We have a retracted drum. All this happens during weeks or months, and you have had a certain amount of permanent damage.

All we can do is to restore the patency of the Eustachian tube and save what hearing the patient has. If of a few months' duration, it may be partially cured. If of a few years' duration, you cannot do much for the patient. When patients complain of a cold and loss of hearing, do not let them wait. Send them to the ear man, and perhaps he can bring back some of the hearing, and at least keep what they have.

HARRY W. BENSON, M. D. (Oakland): It seems to me that this splendid paper is linked up very nicely with what we have heard before this afternoon. The first paper, by Dr. Huenekens, brought to our minds the destructive effects, in children, that come from sinus infections. Next Dr. Reinhard called attention to the various types of allergy. In these cases of allergic manifestations of the sinuses and the nasopharynx, I think it is important to look at the whole picture, just as we have had it presented this afternoon by these three splendid papers. Given a case of hypersensitiveness of the mucous membrane of the nose and throat and sinuses; you have them continue time after time without any attempt at a definite effort to clear up the condition, and eventually it becomes chronic; the result is more or less deafness, as Dr. Teal has said.

We find them coming year after year with repeated attacks of sinusitis, without letting us do what we want to do, and then we must tell them the final result is deafness. Dr. Teal has pointed how that happens.

I wanted to correlate the three papers we have had this afternoon, and bring out the things emphasized in the last paper by Dr. Zemer.

A. L. COOPER, M. D. (Scottsbluff): One point the essayist mentioned, I want to stress. An accidental observation of ten years ago, and close observation since, brings it to mind. That is, the teaching of children to blow their noses.

The intelligent mother, who takes pride in taking care of her child, better than the average, teaches it to blow its nose, and, "blow it hard". This unfortunate youngster often has acute middle ear trouble. The snotty nosed little youngster of the less attentive mother lets it run down its face, but is more fortunately free from middle ear infections.

For years I have made it a point in my practice to teach the mother not to have the child blow its nose, at least, not vigorously. But rather to teach the child to wipe its nose. As a result, I have noticed there is less ear infections among such children. Many times, where children seemed subject to recurring attacks of middle ear infection, after nose blowing was prohibited, they have since been free of such attacks.

This is something in the way of preventive medicine which we should take the time to observe. Possibly I am over-enthusiastic about it, but I think not. We have too much of these ear infections in children.

DR. ZEMER (closing): I want to thank the discussants for their remarks; they are extremely practical. I think everybody should take the time to stress the point the last speaker emphasized. It is routine in our office to tell the mother not to hold the child's nose when the child is told to blow it. Those are points both children and their mothers should be instructed upon. The mother grabs hold of the nose and says "Blow", and the discharge goes to the Eustachian tubes and sinuses, causing many if not most of the infected ears and sinuses of early childhood.

Of course, my paper was a simple statement of the facts as to the tube alone as known today and did not go into therapeutic details.

A SKETCH OF THE LIFE AND WORK OF LEONARDO DA VINCI*

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(Continued from August Journal)

THE PHYSIOLOGY OF DA VINCI

Physiology in the 15th Century was about as it had been left by Galen. Hippocrates may safely be said to have known no physiology in the modern sense of the word; Aristotle arrived at certain physiologic conclusions by the process of pure deduction. Erasistratus and Hierophilus at Alexandria performed a few physiologic experiments but were unable to proceed to sound general truths; Galen built massive superstructures of teleological theories which were usually devoid of foundation in fact: the experiments which he performed were few and were seldom used by him as starting points for further generalization. Throughout the Middle Ages physiology made little progress and the clean-cut statements of Leonardo Da Vinci, based on the finest inductive reasoning, come as a great light at the end of that long period of darkness. Primarily an artist, it is not surprising to learn that some of his finest work dealt with the physiology of vision. His discovery, perfection and use of the camera obscura has already been mentioned, in addition to this he discovered that the image of external objects is inverted and reduced in size on the retina of the eye. This is all the more astonishing when we remember that the platonic theory of sight, which taught that the visual rays proceeded *out from* the eye, was generally accepted at this time. He is also credited with having been the first to discover the effect of light and of darkness upon the size of the pupil. An interesting story is told which connects this discovery with the mocking smile of the famous "Mona Lisa." It is stated that this discovery was made at about the time that he was painting the portrait of an Italian nobleman's wife. Physiologist and artist alternated during the sittings, he would suddenly leave his easel and stand before her gazing intensely into her eyes, first shading them with his hand and then uncovering them. This woman, proud, vain and highly self-conscious, if we may be permitted to judge her character from the famous picture, probably believed his actions to result from unconcealed admiration of her beauty, and hence the subtle mocking smile which he faithfully reproduced upon the canvas. Because of these and still other discoveries concerning the mechanism of sight, Hemmeter has stated that he should share along with Kepler the honor of being the father of Physiological Optics.

He experimented upon and grasped the importance of the spinal cord from his observations on frogs. Concerning it he wrote: "The frog retains life for some time after the head, heart and intestines are removed. But if you perforate this cord it immediately shrivels and dies—all of the nerves of the animal derive from here—it thus seems that here lies the fundamentum of motion and life." He grasped the importance and understood the fundamental mechanism of the automatic, or involuntary movements, and gave an almost perfect but somewhat fanciful description of them, which I will quote as given by Hemmeter. He wrote: "Nature has made in man the voluntary muscles, tractors of the tendons which move the limbs, subject to the will and desire of the sensorium, like officers located by a lord in various provinces and cities who in their places represent and carry out the wishes of their lord. But the officer who in a number of instances has obeyed the spoken instructions of his lord, will afterwards do of himself in similar cases, the things which are in accord with the will of his lord. Thus often one may see the fingers do according to instructions with most perfect obedience, on an instrument things commanded by the judgement or will, and after they have once learned they do them without any attention from the judgement."

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*Presented before the Salerno of The Mayo Clinic Club, February 7, 1928.

The ceaseless transformation of matter and energy with the resultant liberation of heat which characterizes living animals, has attracted the wonder of man from time immemorial. Hippocrates, Aristotle, Erasistratus and Galen have all commented on it but none have stated the problems more clearly than Leonardo. He stated: "The body of everything that takes in nourishment continually dies and is continually born again, because nourishment cannot enter except in those places where the preceding nourishment has broken down, and if it has broken down, then life lacks vigor; and if thou dost wholly deny it nourishment, the life 'in toto' becomes destroyed. But if thou dost return to it just enough to equal the daily destruction, then a portion is restored to life just equal to the waste; just as the light of a candle is supplied with nourishment from the melted candle." Modern science has fully verified nearly every postulate contained in this paragraph but it has required nearly three centuries and the united genius of such men as Lavoisier, Rubner, Voit, Graham Lusk and Benedict to do so. It is interesting to note that Leonardo also observed the fact that an animal cannot live in air which is no longer able to support the flame of a candle.

CONTRIBUTIONS OF LEONARDO DA VINCI TO THE METHODS OF SCIENCE

Leonardo fully appreciated the dangers of applying deductive and teleological reasoning to the biological sciences. Careful experimentation was for him the starting point of all science. "Wisdom is the daughter of experiment." "One experiment is never enough. Rather than make from one experiment a general law, make two or three further experiments, observing whether they produce the same results." "Wrongly do men deplore innocent experiment, accusing it of untrue and fallacious demonstrations. Experiment never fails, but you fail in your interpretation, because you expect from it results that can never occur from such experiments." These were the laws which the master postulated to guide the experimental sciences. He formulated the principle and made use of the inductive method of reasoning over 100 years before Francis Bacon. Gilberto Govi (quoted by Hemmeter) stated that, "Leonardo was the inventor of the system to which Galileo, a century later, owed his finest discoveries; the system to which Bacon, who taught it without understanding it, is indebted for his reputation as the restorer of the sciences."

Leonardo was fully three centuries in advance of his time. He antedated Vesalius as the Father of Modern Anatomy and Francis Bacon as the originator of the inductive method of science; in spite of these magnificant accomplishments, however, it is undoubtedly true that he contributed in no way to the Renaissance or Restoration of Science; nature having endowed her favorite son with almost unparalleled gifts, saw fit to play one of her frenzied and hideous jokes which often retard the progress of civilization for centuries. The works of Leonardo Da Vinci were lost for nearly 200 years after his death. When finally unearthed their value was at first unappreciated and it was some time before they were actually deciphered because of his peculiarity of "Mirror writing." His works on anatomy as we know them today were probably never intended for publication, but are rather his personal notes and drawings, made as he dissected. They are often confused and jumbled, on the margins may be found mathematical formulae, short poems, plans for construction of a bridge or building, or notations regarding researches which he intends to undertake at some future time.

The first publication of his anatomico-physiological works was not made until 1898 and this contained only a small fraction of his total manuscripts. From 1911 to 1915 further publications were made which comprises 6 enormous volumes and undoubtedly these still contain many contributions as yet unknown.

LIFE AND PERSONALITY OF LEONARDO DA VINCI

Leonardo was the illegitimate child of Ser Piero Da Vinci, notary of the signory of Florence, and "Catarina", a servant girl. Nothing definite is known concerning his mother's family. After the birth of Leonardo she married some unknown peasant and again passes into total obscurity. His father is said to have married four times and to have had 11 other children, since none of these are known to have shown any outstanding ability or artistic attainments, it is argued by Hemmeter that Leonardo must have inherited his genius from his mother; on this basis it is possible that she was of noble or artistic family which had been impoverished by war and loss of property and that she was temporarily forced to work as a servant girl. At the age of 5 Leonardo was adopted by his father, having presumably lived with his mother until this time. After this, however, she apparently passed entirely out of his life, for Ludwig states that in all of his numerous entries in his journal, there is not a single statement which indicates that he ever knew his mother. How much did Leonardo receive from his father; was he, the natural child of youth's unbridled passion, accepted into the family on an equal footing with his legitimate brothers and sisters? Apparently not, for we learn that he was later disinherited and entered into litigation with his brothers over his father's property.

Arising from obscurity, disinherited by his father, mistrusted by his brothers and sisters—these facts are sufficient to show us why he turned from the comradeship of men to the solitude and the study of nature. "When you are alone you are yourself absolutely; but if you are attended by a single companion, you are only half yourself—and if you serve two masters, giving yourself to society, sometimes to thoughts of art—then I assure you that in this you will fail." Thus in his own words Leonardo expresses his love of solitude.

His relations with his fellowmen were probably, with few exceptions, cold and indifferent. "His life was a diologue with nature" (Ludwig) and he probably felt very little of the urge which draws men into close comradeship. As an artist he followed the prevailing custom of his day and sought the patronage and protection of some powerful ruler, but when the fortunes of war resulted in the overthrow of his protector, Leonardo, with charming indifference, changed his allegiance and continued his work. In his work he demanded and took absolute freedom, and applied himself only as the mood struck. The priest who had ordered a madonna to adorn his chapel must wait while Leonardo dashed off to complete the dissection on the body of an executed criminal which he had just secured; even the prince must control his impatience and wait for the statue or festive decorations which he had ordered, while Leonardo squatted on the sands of the beach and puzzled over the nature of wave motion. Again we find that he could never bring himself to arrange and edit his massive collection of notes for publication. Every phenomenon in nature attracted him and demanded an answer, but before one experiment was completed he had started fresh ones. To experiment, to learn, to trap nature into revealing her innermost secrets—these were his pleasures, but the odious, methodical task of preparing his results for publication was beyond him.

He held himself aloof from the deceptive scholastic arguments of his time. While the wise men, steeped in the theurgy of Galen, ponderously argued the question—is warmth a substance?—Leonardo betook himself to his laboratory, carefully weighed an object while cold and again at white heat—thus he settled all doubt in his own mind and promptly dismissed the question.

In conclusion I wish to refer to one peculiarity in the life of Leonardo and certain very doubtful conclusions which have been drawn from it. It is probably true that Leonardo was absolutely devoid of the usual, normal sexual passions and relations, but why should this excite comment or curiosity in an astonishing genius of his stamp? Even the layman recognizes the fact that one or more of the natural senses may compensate for the loss of others, it being commonly recognized that the blind develop an acuity of hearing which astonishes those who possess the sense of sight; again the deaf may develop the sense of sight so that it almost compensates for the loss of hearing and can learn to appreciate and feel the harmony of music through color. Viewed in this light it seems easy to believe that the energy of sexual passions may likewise flow into other channels and thus maintain the balance of sensorial perception. Leonardo succintly expressed this thought in one sentence when he wrote: "Intellectual passion drives away all lusts." This explanation of Leonardo's apparent unbalance seems so rational that it is difficult to consider the accusations of Freud in a serious manner. Freud has developed an elaborate labyrinth of complex reasoning in order to prove that Leonardo was sexually abnormal and bore an unnatural love for his mother; this labyrinth begins with a childhood dream concerning a vulture and ends with the demonstration (?) of a culture hidden in the drapery of Leonardo's famous St. Anne group. To enter into further details would add nothing more and we may drop this fantasy without further comment.

Leonardo lived until about the age of 67 and apparently his energy and naive enthusiasm never slackened, since much of his finest work was accomplished in his later years. "When I think that I have learned to live then I will learn to die"—thus did he plan to meet the end of his glorious career and in this we must believe that he succeeded. When he realized that the end was near he quietly arranged his affairs and turned to his journal to make the final entry—"Man always festively awaiting the new spring and the new summer, complains that the longed for things are slow in coming, and fails all the while to notice that he is longing for his end. Yet precisely this wish is the quintessence of the elements which feel themselves imprisoned in the body through the soul and wish constantly to return to their maker. But I would have you know: this same wish is also the true spirit of nature and man is but cosmos in miniature." (Ludwig). Thus his final thought sought to bring the essence of man into harmony with the natural laws which he had loved and studied during his life.

REFERENCES

Hemmeter, John C. Master Minds in Medicine.

Hopstock, H. Articles on Leonardo as an Anatomist. Studies in the Methods and History of Science, Volume II. Edited by Charles Singer.

Klebs, Arnold C. Leonardo Da Vinci's Scientific Research with Particular Reference to His Investigation of the Vascular System. Boston Medical and Surgical Journal, 1916, CLXXV, I.

Leonardo Da Vinci's Note Books. Edited by Edward McCurdy, Empire State Book Co., New York.

Ludwig, Emil. Genius and Character.

Merykowski, Domitri. The Romance of Leonardo Da Vinci.

The Mind of Leonardo Da Vinci. Edward McCurdy.

DIAGNOSIS OF HYPERTHYROIDISM WITH SPECIAL REFERENCE TO BASAL METABOLIC RATE—CASE REPORTS

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One of the most difficult diagnostic problems with which we have to deal is that of early hyperthyroidism. This is due to the fact that it affects the entire system and thus we must consider all systemic diseases. From this, we may enumerate the following diseases, which are often diagnosed as hyperthyroidism or vice versa, in the order of their importance as to frequency of error: Neurasthenia, pulmonary tuberculosis, cardiac disease, diabetes, leukemias, malignancy, focal infection, nephritis, hyperemesis gravidarum, Hodgkin's disease and varied abdominal conditions.

Let us first recall to mind the classical signs and symptoms of hyperthyroidism, granting that when all are present a diagnosis is made easy: Tachycardia, emotional disturbances, loss of weight, increased appetite, myasthenia, increased fatigability, gastro-intestinal complaints, vasomotor disturbances (sweating, flushing, sensation of heat, particular discomfort in warm weather) tremor, eye signs (exophthalmos and staring) increased blood pressure, especially the pulse pressure, increased basal metabolic rate. And—in about half the cases—a demonstrable enlargement of the thyroid gland.

There are two ways by which a neurasthenia may be confused with hyperthyroidism, either on having an enlargement—be it toxic or not—the patient is told that she has a goiter and she becomes a neurasthenic from the fear of it—a goiterophobia—and develops the signs of toxicity in its classical form, or one with neurasthenia primarily. A neurasthenic is one who has a clinical disturbance of the involuntary nervous system which is a very unstable structure in many persons and this instability causes symptoms which are in accord with those of hyperthyroidism as disturbance of the involuntary nervous system occurs in a thyrotoxicosis. It is in this type of case that the estimation of the basal metabolic rate serves as a very good diagnostic aid as in a neurosis the really basal metabolic rate is normal and hyperthyroidism is very rarely, if ever, seen with a normal basal metabolism. The tachycardia, in a neurasthenia, is usually of the paroxysmal type becoming rapid for a time but returning to normal. While in a thyrotoxicosis, the pulse rate never returns to normal always being eighty beats or higher per minute.

The differential diagnosis of incipient pulmonary tuberculosis and early hyperthyroidism is very difficult in that their symptom complex is very similar. They both present the symptoms of tachycardia, progressive loss of weight with increased appetite, sweating, nervous symptoms and emotional changes. Also the basal metabolic rate in some cases of tuberculosis is slightly increased. The tuberculin test should not be made in the presence of a possible thyrotoxicosis, as it will increase its toxicity. The two diseases are not uncommonly found together and by some are thought to be somewhat associated. In some cases a differentiation is made possible only by clinical judgment and experience, at least until definite signs are present. The treatment is rest being the only method in handling the case unless surgical intervention becomes necessary.

Many cases, suffering from hyperthyroidism, consult a physician for their hearts. The first noticeable symptom is usually that of rapidity and pounding. This should suggest a possible thyrotoxicosis unless otherwise accounted for and a determination of the basal metabolic rate be necessary. A rate above normal is present if there is decompensation, but if not, you should carefully consider hyperthyroidism.

Diabetes must be considered as we find similar symptoms of loss of weight, weakness and easily fatigued to the extent of nervousness. The finding of glycosuria is not uncommon with hyperthyroidism, but the amount is not at all in proportion to the symptoms thus making the differentiation fairly easy. The basal metabolic rate in mild diabetes is normal, but severe cases have a decrease in proportion to the emaciation.

In the leukemias, we find that there is a high metabolic rate which—with symptoms of heart involvement, gastro-intestinal disturbances, general weakness to nervousness—would suggest hyperthyroidism, but from a blood count and later glandular involvement, this can be easily determined.

We only mention the possibility of error in the mistaking of malignancy, focal infection, nephritis, hyperemeses gravidarum, Hodgkin's disease, and abdominal disorders for hyperthyroidism and vice versa, in that their symptoms are often in common. This has lead to the removal of a normal thyroid, only to have one of the above proved to be present, or the opening of the abdominal cavity when the trouble was due to the thyroid gland. In all the above conditions, with the exception of Hodgkin's disease and some cases of chronic nephritis which may be slightly increased, the basal metabolism is normal.

We find from this that the determination of the basal metabolic rate, while a valuable test at times, many things should be considered in interpreting its value. In the first place, you must be sure your test is an accurate one. Secondly, you must remember that other diseases may give an increased rate. It has also been found that some cases, presenting the symptoms of hyperthyroidism and a normal metabolic rate, have responded to hyperthyroid treatment both medically and surgically. It is to be considered, however, as a laboratory test, and must be used in conjunction with the clinical findings. An increase in this test was, at first, considered absolutely diagnostic of hyperthyroidism.

We are to understand that the basis of the test is the measurement of the oxygen consumption from the respiratory metabolism, measured in calories, per square meter of body surface per hour varying slightly from age and sex and made under absolute basic conditions. The apparatus itself, regardless of make, is fairly simple, the using of which is purely mechanical.

The real difficulty in getting a correct reading is to have all factors under basic conditions. The patient should not have food for 12 to 14 hours, and should be at absolute rest without the use of drugs, if possible. First readings are usually not basal, because of the patient's fear of the machine, and the difficulty of getting the subject to breath naturally. In any dubious instance, at least two, and preferably three, readings should be made before final opinion is given. Any rate up to plus 10 or 12 may safely be ignored, and held as doubtful in the range of 12-20. The average reading in the exophthalmic type is plus 57 and toxic adenamatus is plus 39.

CONCLUSIONS

1. With a symptom complex affecting the entire system, all systemic diseases must be considered.

2. About 30% of the cases diagnosed as hyperthyroidism and sent to clinics for treatment, are neurasthenias.

3. Many diseases other than hyperthyroidism
cipient tuberculosis, leukemias, cardiac decom-
give an increased basal metabolic rate, as: In-
pensation, Hodgkin's disease and to some extent
fevers also present similar symptoms easily in
the disease.

4. That the use of the basal metabolic rate should be interpreted in the presence of the clinical picture. It should be used in a suspected case, which, if found normal, can fairly certain rule out thyroid toxicity while if increased under basic conditions, should be connected with the clinical signs before a diagnosis can be made.

Case No. 1:

Mrs. W. S. Age 28. Gives past history of acute rheumatic fever and scarlet fever in childhood, each of which were complicated by heart involvement from which she has been bothered slightly since. She had an acute illness diagnosed as "flu" in January, which had left her in a weakened condition with slight afternoon rise in temperature for three months. She developed palpitation, precardial pain, loss of weight, night-sweats, nervousness and slight enlargement of the thyroid gland. A metabolism rate was made and found to be +80. Having suspected a possible tuberculosis, a Von Pirquet test was made which was positive, but her condition became greatly aggravated. A B. M. R. made two weeks following the previous one was +100. A diagnosis of exophthalmic goiter was made, she was put on Lugols' solution for ten days with a drop of +78 in her B. M. R. She was then operated on, a partial thyroidectomy being done. After a stormy post-operative shock, she made a rapid recovery to normal health.

Case No. 2:

Mrs. L. B. Age 35. History of thyroidectomy ten years previous to coming into the office with symptoms so simulating those before her operation, she feared a return of her goiter. A B. M. R. was made which was +5. Disregarding a possible goiter, a physical examination was made and her symptoms were found to be due to a subacute nephritis. This soon cleared up under treatment with a return to good health.

Case No. 3:

Mrs. A. D. Age 42. Called in the night to see her suffering from "heart and liver trouble" for which she had been treated for a year, made worse following confinement nine months before. The thyroid gland was enlarged and had remained the same for twenty years. Her symptoms being classical of a toxic adenoma a B. M. R. was made, reading +53. After regular pre-operative treatment a partial-thyroidectomy was performed with practically a complete cure.

REFERENCES

1. Difficulties of Diagnosis of Toxic Symptoms Referable to the Thyroid Gland, Burton E. Hamilton, Dec., 1924. Pp. 1442-52, The Surgical Clinics of North America.

2. Considerations of Diseases of the Thyroid, Clayton Andrews, N. S. M. J., May, 1927, pp. 161-65.

3. Basal Metabolism, F. W. Niehaus, N. S. M. J., Oct., 1927, pp. 390-91.

4. Hyperthyroidism in Connection With Diabetes, Frederick G. Dyas, Surgical C. of N. A., Aug., 1926.

5. Diagnosis and Medical Treatment of Toxic Goiter, Monroe M. Ghent, Minnesota Medicine, July, 1927.

6. Goiter, Byron B. Davis, N. S. M. J., March, 1927, p. 81.

7. Tuberculosis and Goiter, E. P. Sloan, J. A. M. A., June 18, 1927, p. 1954.

8. Exophthalmic Goiter and the Involuntary Nervous System, Leo Kessel and Harold T. Hyman, J. A. M. A., June 6, 1925.

9. Surgical Treatment of Goiter, G. W. Crile, Radiology, 6: pp. 365-67, May, 1926.

10. The Medical Treatment of Hyperthyroidism, Annals of Clinical Medicine, 4:673-81, February, 1926.

11. Tice System of Medicine.

BULLETIN FROM THE BRYAN MEMORIAL HOSPITAL LABORATORY OF CLINICAL PATHOLOGY TO THE CLINICAL STAFF, MEETING APRIL 11, 1930

THE LABORATORY AND THE GALLBLADDER

In a modern diagnostic study of the gallbladder, the laboratory ranks equal with the history and the roentgenological study. Properly selected laboratory procedures performed with the correct technic, contribute a great deal of indispensable information to the diagnostic picture.

1. Icterus Index. By means of this test, excess of bile pigment in the blood serum is detectable and measurable, even though no icterus is apparent clinically. The readings on normal individuals run as high as 3; figures above that point to the presence of an excess of bile pigment in the blood.

2. Van den Bergh Test: this is a much more delicate test for the presence of excess of bile pigments in the blood. By the Direct method large quantities such as are commonly present in obstructive jaundice, are readily detected. By the Indirect or alcohol extraction method, much smaller quantities such as are characteristic of hemolytic jaundice, are detected. Normal amounts of bilirubin do not produce a reaction by either method. The Quantitative Van den Bergh is useful for following-up the progress of a case during treatment. This case differs from the preceding one in being an accurate chemical test for the presence of bilirubin, whereas the icterus index is merely an accurate measurement of an excess of yellow color in the blood serum.

3. Blood Cholesterol: While cholesterol percentages are not an accurate pathognomonic point in the diagnosis, the results of the test are nevertheless valuable, because gall-stones are commonly found in cases with high blood-cholesterol content.

4. Duodenal drainage. The controversy as to whether the duodenal tube gets material from the gallbladder or not, is about over. It has been demonstrated in the laboratory, on the operating table, and roentgenologically that gallbladder secretion is recoverable, providing proper technic be used throughout. The diagnostic elements found in this secretion are: a, mucus; b, cells; epithelial, blood, and pus; c, crystals; and d, bacteria. The following outline is suggested for a systematic study of the material removed by the duodenal tube. (Smithies).

	"D"Bile Gross Micr.	"A"Bile Gross Micr.	"B"Bile Gross Micr.	"C"Bile Gross Micr.
1. Quantity				
2. Rate of flow				
3. Color				
4. Odor				
5. Consistency				
6. Transparency				
7. Mucus				
8. Pus				
9. Blood				
10. Calculi				
11. Cytology				
12. Organisms				
13. Crystals				
14. Cultures				
15. Flocculi				
16. Sediment				
17.				
18.				

THE DOCTOR SAID

A young doctor, just graduated, was very much relieved when he managed to secure a position as one of the staff of an insane asylum. He intended to specialize in mental diseases, and the position would not only enable him to acquire valuable training, but it paid sufficient salary to guarantee him against want. He worked hard to make friends with the inmates and was very much elated some weeks later when a patient said to him, "You know, doctor, all of us like you much better than the last doctor we had."

"Indeed," said the doctor. 'How's that?"

"Why," explained the patient, "you seem more like one of us."

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EFFICIENT FUNCTIONING OF COMPONENT SOCIETIES IN RURAL SECTIONS

With the beginning of September medical society meetings will again be the order.

The problem of component county medical societies is the problem of having them function efficiently.

When the American Medical Association was reorganized on the county unit plan, scant consideration was given to the problems of counties in agricultural sections and other regions with few physicians. The result has been that such component county organizations exist for the purpose of paying dues only. From the very nature of things, with rare exceptions, no educational work is accomplished by such component societies. Some do well to have the one necessary annual meeting to keep the paper organization alive.

To promote the work of county societies, hyphenated or joint meetings have been devised with varying success. One notable instance has been worked up in this state and it may prove profitable to give the salient points of its method of operation.

The so-called "Madison Five Counties Medical Society" was organized as the Madison County Medical society and developed into a passably good functioning society. In the course of time an adjoining county society asked to become affiliated; later another, then another and finally a fifth became affiliated. This made a strong body and today 68 out of a possible 74 physicians in the five counties, hold membership in the society and the society ranks as the third largest society in the state. This makes it possible to command talent from the larger cities and thereby compel greater interest in the programs.

The outstanding principles developed in the society and on which its success depends, are:

Meetings are held monthly throughout the year.

The secretary and president at the beginning of each year appoint a program committee for each month of the year except December, the December meeting being devoted to election of officers and an annual ball.

The names of the committees on program are carried on the formal program folder throughout the year—lest they forget.

Each program committee is solely responsible for the program for the month designated. This committee is expected personally to put on at least one number of the program (to bring out the local talent) and may get outside talent in addition.

The meeting always follows an evening dinner to which the physicians' ladies are invited. They are also invited to attend the scientific sessions if they wish.

A standard price of one dollar was agreed upon for the dinners and no complimentary dinners are accepted, thus relieving the program committees of any possible embarrassment.

The winter meetings are usually held in Norfolk, the most central point, but during the milder seasons meetings are held at other points of the district at the wishes of the committees responsible for the program.

To comply with the fundamental law governing the formation of component societies, each county maintains a paper organization and is represented by a delegate in the state meeting.

The dues are one dollar, plus the state association dues and the secretary-treasurer of the Five Counties society handles all the funds and does the accounting.

Dentists are offered associate memberships for a dollar a year and many avail themselves of the opportunity. One program each year is assigned to the dentists.

The membership of 68 bespeaks the interest in the organization. Men in the cities working along special lines are glad to take places on the program. It has become the custom—a very good one—to take the ladies to the meetings. After dinner they often attend the scientific sessions, but sometimes they have auxiliary meetings. Attendance usually ranges from thirty to fifty and has reached upward of eighty when outstanding programs have attracted physicians from other parts.

X-RAYS IN FRACTURES IN MICHIGAN JURISPRUDENCE

It is stated that the courts of the State of Michigan have held in almost every case that a physician is guilty of malpractice if he undertakes to treat a case of fracture and obtains a bad result without first having obtained x-rays to guide the treatment through to the end of the case.

In view of this the following letter, with reference to this matter, was sent out to the members of the Michigan Medical Society by Dr. F. B. Tibbals, Chairman of the Medico-Legal Committee:

"By direction of the Council this letter is being sent to you over the signature of the Chairman of the Medico-Legal Committee. You are urged to give it very careful attention and be giuded by the recommendations herein contained. Your Medico-Legal Committee takes this opportunity of calling members' attention to the importance of x-ray and the necessity of procuring x-ray records in your practice. This is essential for your personal protection.

"Unquestionably, the x-ray is one of the most important advances in medical and surgical diagnosis. Clinical experience or ability cannot substitute for the x-ray in your fracture practice. We wish, therefore, to impress upon every member for his own protection that whenever you are asked to treat any accident cases where there is any possibility that a fracture or a dislocation may be present, you should insist *upon an x-ray picture and record before you proceed with the care of the case.* This is extremely important due to the fact that you must be able to prove, in court if necessary, that you at least asked for a radiograph but were refused. Where you are refused an x-ray you should obtain and preserve a written statement to that effect. This statement should be dated, signed by the patient, signed by yourself, and in the presence of one or two witnesses who also attach their signatures to the statement. This statement should then be carefully preserved for future reference. In fact, it is recommended that you should decline to diagnose or treat any case where you deem x-ray pictures necessary for the proper care and treatment and in which your patient refuses to have an x-ray taken.

"This x-ray should be used not only in the diagnosis of fractures but at least once after reduction to prove proper reduction, and then again when the case is discharged to prove the final result. It is also advised that several x-ray records be made during the course of treatment in order that you may show and be informed that position and anatomical reduction is being maintained.

"The Courts of the State of Michigan in almost every instance hold that a *doctor is guilty of malpractice* if he undertakes to treat a case especially in fracture work and, of course, where a bad result is obtained without first obtaining x-rays to guide the treatment through to the end of the case. The x-ray should be used not only in the diagnosis of fractures but once at least soon after the reduction, to prove proper reduction, and preferably several times afterwards, to prove maintenance of reduction, and finally at close of treatment, to prove firm union. The professional man who has thus safeguarded himself need have no fear of suit. If the x-ray check shows a fracture which cannot be retained in good anatomical position, knowledge of this fact should enable the doctor to place upon the patient a responsibility for choice between the hoped for but uncertain result of useful function, and operative treatment, with its occasional hazards.

"We have to defend every year one or more cases of unsuspected fractures where no x-ray has even been suggested. In several such cases it was a cultist, who months later ordered a diagnostic x-ray. We have been able to successfully defend but one of these cases upon the theory that no better result could have been obtained even with proper diagnosis. Such a theory, however, would not hold true in most cases and is a poor substitute for treatment based on accurate diagnosis.

"We have many suits brought as an offset to the doctor's suit for fees. Every doctor should know that the Statute of Limitations for adults is two years and should wait over two years before attempting to enforce collection."

Again, let the profession be advised to carry malpractice insurance in large amount and heed the need of x-ray pictures in fracture cases, for malpractice cases are increasing and anyone may be in line for trouble.

OBSTETRIC EDUCATION OF PHYSICIANS

The White House Conference on Child Welfare and Protection recognized the need of providing more and better educational facilities in obstetrics for the general practitioner of medicine and for those of the profession who desire to adopt obstetrics as a specialty. First of all it was the sense of the Conference that the facts and principles of the basic sciences should be correlated to clinical phenomina and not presented as abstract science as is so often the case in our medical schools where too frequently these subjects are presented by lay scientists who know little of their clinical bearing. "The methods of past years clearly reflect the fact that the present high mortality of mother and baby is dependent upon the inadequate, faulty obstetric teaching." A poorly instructed undergraduate student can scarcely be expected to attain excellence in graduate instruction; undergraduate teaching of obstetrics and graduate teaching bear an intimate relationship. In the early years of medical training in the United States it was imperative for one who would prepare himself for the practice of obstetrics to go abroad. Obstetric teaching has not kept pace with medicine and surgery and it follows that there is much to be desired in graduate teaching of obstetrics here in the United States. We would do well to adopt the European plan of "Frauen Klinik". In such a clinic, combining obstetrics with gynecology, there should be at least one obstetric patient for each student assigned to clinical obstetrics. This would give at least 26 if not 30 confinements for each bed annually. Such a "Frauen Klinik" should be controlled by the university and, while housed in an isolated pavillion, it should be organically connected with the University hospital.

It is imperative that there should be a large amount of pathological material available for instruction. Such material can only be obtained in thickly populated districts. Schools located in small communities are necessarily handicapped in this regard.

The interne year is required by 12 states and 13 medical schools; it should be required by all states and schools. Furthermore, all states and schools should require an adequate interne service in obstetrics. This would go far in compensating for the lack of clinical instruction in the undergraduate years.

Circuit courses, either under the auspices of the State University or the State Medical Association should be available to the general practitioner. In this manner competent clinical instruction is brought to the several districts of the state. there to give instruction to the general practitioner who is far removed from a medical center.

The State Medical Society of Utah, the Chicago Medical Society and the Kansas City-Southwest Clinical Society have demonstrated the value of intensive instruction in obstetrics in sessions of one or more days.

It is gratifying to note that there are an increasing number of residencies in maternities where the graduate student may pass one to three years in intensive clinical instruction. Nothing short of such an experience will justify a student in entering the practice of obstetrics as a specialty.

With 100,000 women delivered annually in our institutions it is evident that the country affords an abundance of material for the graduate student. The difficulty lies in the making of this material available for instruction. This is a problem that is up to our medical educators.

—Palmer Findley, Omaha.

THE 110th MEDICAL REGIMENT AT THE NEBRASKA NATIONAL GUARD ENCAMPMENT, ASHLAND, NEBR., 1931

As a part of the formal exercises on Governor's Day at the Nebraska National Guard Encampment at Ashland, special exercises were held to award cups to the hospital company and the ambulance company of the 110th medical regiment. The award of the Kitchen cup which is given by Lieutenant Colonel Bartholomew was made to the Hospital company. The Colonel's cup awarded by Colonel D. C. Hilton was made to the 110th Ambulance company.

Major Berger, United States Army medical instructor for the 110th medical regiment, was introduced by Captain Evans of Columbus and made an explanatory address as to the points considered in awarding the cup.

Colonel Hilton introduced the principal speaker, Colonel H. Winnett Orr of Lincoln, who made the award in a short address. Colonel Orr spoke of the beginnings of the present medical regiment which was organized at the request of General Paul in 1922. Colonel Orr was the commanding officer of the Regiment for the first three years and expressed his very great satisfaction and pleasure over the progress of the regiment and the high state of efficiency indicated by its present organization. The Regiment had more than ninety per cent of its strength of officers and men in camp and made a fine showing, not only as to its own duties within the regiment, but as to its service to the remainder of the military organization in camp.

Colonel Hilton was congratulated upon the many improvements that have been made both in the organization and in its equipment, and the hope was expressed that at the tenth anniversary encampment of the Regiment next year a jubilee celebration might be held so that all those medical men interested in military affairs might be invited to participate in the exercises at that time.

—* * *

THE EDWIN SMITH SURGICAL PAPYRUS. VII

A Broken Nose: "If thou examinest a man having a break in the column of his nose, his nose being disfigured, and a depression being in it, while the swelling that is on it protrudes and he has discharged blood from both nostrils, thou shouldst say concerning him: One having a break in the column of his nose. An ailment which I will treat.

"Thou shouldst cleanse it for him with two plugs of linen. Thou shouldst place two other plugs of linen, saturated with grease in the inside of his two nostrils. Thou shouldst apply for him stiff rolls of linen by which his nose is held fast. Thou shouldst treat him afterward with grease, honey and lint, every day until he recovers." (Case II).

PROCTOLOGIC HINT NO. XII

The clamp and cautery operation for hemorrhoids is as much a disgrace to surgery as was the old crushing operation and the Whitehead operation.

—L. E. Moon, Omaha.

Dear Reader:

The Journal and the Cooperative Medical Advertising Bureau of Chicago maintain a Service Department to answer inquiries from you about pharmaceuticals, surgical instruments and other manufactured products, such as soaps, clothing, automobiles, etc., which you may need in your home, office, sanitarium or hospital.

We invite and urge you to use this Service.

It is absolutely free to you.

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We want the Journal to serve you.

EDITORIAL PARAGRAPHS

Notice the ad of the American Congress of Physical Therapy in this issue.

With so many mysterious fires around, would it not be well to pass a law preventing mice from gnawing matches?

The Mississippi Valley Conference on Tuberculosis will hold a meeting at St. Paul, Minn., September 21-22, 1931.

The American Congress of Physical Therapy of which Dr. Roy Fouts, Omaha, is at this time president, will hold its annual session at the Fontenelle hotel, Omaha, October 5, 6, 7, 8.

It is stated on good authority that ringworm of the feet or athlete's foot, is readily cured by immersion in a bath of sodium thiosulphate.

It is stated that there are just about one-sixth as many homicides in Canada in proportion to population as there are in the United States. Prompt and certain punishment follows murder in Canada.

Many Nebraska physicians will avail themselves of the opportunity to attend the meeting of the American Congress of Physical Therapy under the presidency of Dr. Roy Fouts, at Omaha, October 5, 6, 7, 8.

The way the Legionnaires paw at the resolutions passed by the American Medical Association in regard to the hospitalization of veterans whose disabilities are not connected with the service is a fair indication of what the American Medical Association will accomplish in that matter.

The Nebraska profession is distressed over the actions of one of its younger members who has recently been arrested for repeated incendiarism and who seems upon examination to be a pyromaniac when under the influence of liquor. An otherwise bright career is ruined and a wife and children are made to suffer.

A former Nebraska physician, Dr. Francis Tucker, medical missionary in China, has been acquitted of killing, by shooting, a Chinese prowler found in his home. The Tucker family has connections at Falls City and a son and daughter, students at Rush Medical College, spent the summer at Falls City.

The tenth annual meeting of the American Congress of Physical Therapy to be held in Omaha, October 5-8, is probably the most nation-wide medical meeting ever held in Nebraska. The wide range of subjects discussed should appeal to outstate practitioners. There is every assurance that the speakers are qualified to handle their subjects.

Summing up an extended article on "Results of Tonsillectomy and Adenoidectomy", Selkirk and Mitchill, in *Am. J. Dis. Children,* July, 1931, state "that in our study of children three years after tonsillectomy and adenoidectomy there was a lessened incidence of colds, nasal obstruction and sore throat; while sinus infection, headache and growing pains were increased in frequency."

A Dr. William A. Oyler said to be unworthy of assistance has been begging from physicians in Indiana, Illinois and Iowa for some time past and may be headed for Nebraska. He was last heard from at Des Moines where he was arrested and afterward released with an admonition to cease his activities. It appears that he tells a hard luck story and asks for donations. He is a man with a record and according to our information Dr. A. J. Cramp, Director of Publicity of the American Medical Association, is preparing an article about Oyler for publication in the *Journal of the American Medical Association* at an early date. Beware of Dr. William A. Oyler.

A new group of epidemic cerebrospinal meningitis germs has been discovered at the National Institute of Health at Washington during studies conducted under the direction of the United States Public Health Service. This is the fifth group of these germs to become known. The germs of this disease are grouped according to "strains". Not all strains are alike in their power to produce the disease. Some are very virulent and deadly and more apt to cause a fatal form of the disease than other strains. More than 50 per cent of the cases in the recent epidemics of cerebrospinal meningitis have been fatal in some localities, while in other cities the deaths have been fewer.

For the Human Interest Tales in *The Nebraska State Medical Journal* we are almost wholly dependent on press clipping service: Lately, because of a shortage of material, it has occurred to us to make a comparison of items with the first 8 months of last year, with the following result:

1930		1931
25	January	20
19	February	30
9	March	30
13	April	30
28	May	20
33	June	15
23	July	9
52	August	7

Without the source material the editor cannot produce the "Tales". The clipping bureau suggests in response to our complaint that it is just possible that "The Docks" are a little short of change for vacations and postgraduate courses and marriages this year.

We are said to be passing through the greatest depression in the history of the civilized world, but we have made the world "safe for democracy"!

Posture studies made by the United States Public Health Service lead to the following conclusions: "The primary characteristic of all the postural relations studied was that of variability; and this variability was particularly manifest in the presence of widely different postural characteristics in the same individual. No fixed types of posture could be found, even among the youngest children. The specific conclusions of the investigation are technical in nature and cannot be given in a brief summary. They are of a decidedly negative character and do not lend support to certain more or less established ideas. At every point in the investigation an unmistakable impression was obtained of the great variability in postural relations from person to person and the impracticability of establishing specific standards of posture."

"Vittels and Drink": Some of the leading nutrition experts in the country have summarized a man's normal dietary needs, in order to enjoy health, as follows: One quart of milk, two salads, two liberal helpings of the leafy portions of green vegetables, one helping of any meat, and two eggs. He may add to this anything within reason that his appetite demands, including a liberal supply of bread, butter, fruit, and various vegetables.—Says *Health News.*

Apropos of the paper "A Country Doctor Looks Around" in the August *Journal,* the following letter which we are pleased to publish in part, was sent to the author by one of the most prominent men in the profession in the state. It should remind us that we take too many things for granted: we should oftener express our appreciation.

"Dear Doctor: I have just read your paper, which appears in the August issue of *The Nebraska State Medical Journal.* I am sorry that I did not hear you read it before the society. I wish to congratulate you on this fine presentation of a delicate subject. I am also pleased to note that the editor has given it a place of prominence by putting it first in this issue of the *Journal.* Every word of it expresses a thought of a clean mind and of a man with high ideals. A fine paper like this once a year is of inestimable value to the society.

"Those of us who are unfortunate enough to practice in the city and do a more or less specialized type of service appreciate more than we can tell, a voice speaking in this manner. I know a number of men out in the state who share your views and your ideals in a manner similar to which you have expressed here. These are outstanding men, and while their reward is mainly hard work, yet they have the confidence and gratitude of a large clientele as well as the respect of all the medical profession."

THIS MONTH IN MEDICAL HISTORY

In 1831 the Massachusetts Medical Society began the publication of "The Library of Practical Medicine". Twenty-five volumes were published before it was discontinued in 1868.

In 1931 Louis Aggasiz, at the age of twenty-four, was a pupil of Cuvier in Paris. Aggasiz' mother, Rose Mayer, was the daughter of a physician. He came to America in 1846 at the age of thirty-nine. He was Professor of Anatomy at the University of South Carolina in 1851.

In 1831 Dr. Gurdon Buck (Buck's extension method) was spending his first post graduate (Coll. of P. & S. N. Y.) in the hospitals of Paris, Vienna, and Berlin. He made many contributions (1840-1876) to the literature of bone and joint surgery.

It is interesting to find travelling companions in the Encyclopedia which tells us that Dr. Henry B. Daggett (Yale, 1830) was also spending the year 1831 in Paris where he and Dr. Buck must have met very often.

NECROLOGY

Edward T. McGuire, Mead, Nebr.; Lincoln Medical College, 1908; practitioner at Mead for twenty-three years and a foremost man in the community; member Nebraska Board of Medical Examiners for a number of years and its president at time of death; member, Nebraska State Medical Association; died in an Omaha hospital, July 26, 1931, following an appendectomy, aged about sixty-one years. A widow, son and daughter survive.

D. J. Reynish, Plattsmouth, Nebr.; Rush Medical College, date unavailable; formerly practitioner at Burchard, Edgar and Kearney; becoming disabled he entered the Masonic Home at Plattsmouth six years ago, where he died, August 2, 1931, aged abouty seventy-five years. A widow and two daughters survive.

Levinus A. Lansing, Wakefield, Nebr.; University of Buffalo School of Medicine, 1897; practitioner at Wakefield and other north Nebraska towns—Emerson, Winside, Hubbard—since graduation; member, Nebraska State Medical Association; a man well thought of by his patients as was attested by the large number attending the last obsequies; died of double pneumonia, August 7, 1931, aged about fifty-eight years.

COUNTRY DOCTOR

(To my Father)

Beneath his linen duster, sagged and bent,
Day out, day in, for fifty years or more,
Up the red clay hills and down he went,
His black square case upon the buggy floor.
I've heard his horses pounding down the lanes
Lashed to desperate lather and to foam;
I've seen him give the weary team the reins
And worn out, sleep, the while they ambled home.
His eyes were set in crinkled lines of mirth,
Cheer was prescribed with bitter calomel,
He was the arbiter of death and birth,
The go-between of Heaven and of Hell.
Tender as woman, steadfast as a rock,
Small wonder all the hill-folk loved "Old Doc!"

—In "White Peaks and Green".
By Ethel Romig Fuller.

REACTIONS OF A YOUNG CULTIST WHO SEES THE LIGHT

Dear Doctor: Received your letter and the Journal A. M. A. this morning, for which consideration I am very thankful to you. I have been taking the Journal A. M. A. for about a year and have been reading all the pamphlets put out by A. M. A. relating to cults and professions, otherwise I wouldn't have been awakened even yet. New and Non-official Remedies, Handbook of Therapy, Propoganda for Reform, two volumes of Nostrums and Quackery, Disturbances of the Heart, Infant Feeding, Useful Drugs, Epitome of U. S. Pharmacopeia and National Formulary, and Dr. Cathell's "Book on the Physician", are in my library. After studying Osteopathy for 4 years, about 3 years with another osteopath, and 1 year alone, and after spending considerable money, and studying continuously and gathering a little information here and there and finally coming to the conclusion that I haven't anything yet in a professional way just fairly makes my blood boil, and, of course, makes one feel like committing violence to someone for not starting me out on the right track to start with. In my senior year at high school I went to Dr. G. in a shy way, like you can imagine me doing, to get encouragement and information about my taking up Medicine. He gave me a catalog of Nebraska and that is about all. He was in the right about not trying to influence me either way, but I didn't take it for anything less than lack of sympathy. He should have presented me with some facts, at least, if he didn't feel like encouraging me; but there is no telling what problems he might have had on his mind that day, and for that reason I probably lost out on what good advise he might have given me, had he been disposed to do so. I also went to Dr. S's. office one Sunday afternoon, but, of course, he wasn't in his office that day. I was afraid of him and never did go back. Dr. N. of Omaha was up to our house one day, but I was dirty from mixing concrete and didn't have the nerve to ask him what he thought of me taking up Medicine. He looked so nice and was dressed up and I had a lot of respect for him. This summer he told me I should have asked him that day about taking up Medicine and he would have given me some good advise; but that was my only opportunity of seeing him and I passed it up. Three bad breaks, and psychologically, I wasn't in the mood to ask you; so here I am.

As a remedy, I would suggest that the high school library of every city be provided with pamphlets, magazines, books, etc., such as I have named and from which I got my information; and every graduating senior's attention called to such literature by the superintendent, under rigid orders from the school board, and thus save the student from blindly barking up the wrong tree for a good share of his life, and maybe never finding out where the trouble is, but always hoping for that "next year" stuff. Also, another advantage of going to a state school is that at the most, usually he wouldn't waste more than two years of time and school before they would eliminate him from the profession if, in their judgment, he would not make a success as a doctor. And even then his time wouldn't be wasted because he could take up something for which he is fitted and his past work in the university would go for credit on the other work. In a private school, on the other hand, they want numbers and tuition fees primarily, and one has no very good assurance of his adaptability for the work and gets out of school and into practice for at least a few years, and then may find he either isn't in the right profession or isn't adapted to any profession. Like a man trying to swim the ocean when he should take a ship, or stay at home in the first place.

My wife thinks we had better not attempt going to medical school on account of there being so many doctors out now; and in view of the fact that 5,000 M. D's. graduate every year with an increase of 1,600 every year over deaths, and also the tendency toward clinic and hospital practice for everything worth while that the general practitioner used to care for in the home because the horse and buggy wouldn't take them to the city very easily. Also Medicine is an honorable profession, but at best is not usually a money-making proposition or a very good business, and to make the best nowdays the general man on account of competition must have a very strong personality, or great tact, or great industry, besides a very good and expensive training and equipment; all things which present a very formidable resistance to a small fellow undertaking it. We are enlightened as to many of the advantages and disadvantages of professional work, and realizing our position at present and our outlook for the future in Osteopathy, after spending the time and money we did to come to that realization, our pride is rather badly hurt when we think of quitting and going back on the farm,—"an innocent gosling who grew up to get his feathers plucked and his tail feathers pulled out". We would rather go on to medical school and carry on and make a success, if the outlook for success were a little brighter. Maybe we lack courage, determination and stick-to-it-iveness, but one must make a living, and look forward to old age I guess, and if it means swallowing one's pride. To decide is difficult; and I suppose the decision rests with us. Maybe we had better dream about it a little more, and see what we feel like then. I guess one cannot figure it out by any method of mathematics, and the only way to find out is to try it. —***

TUBERCULOSIS ABSTRACTS

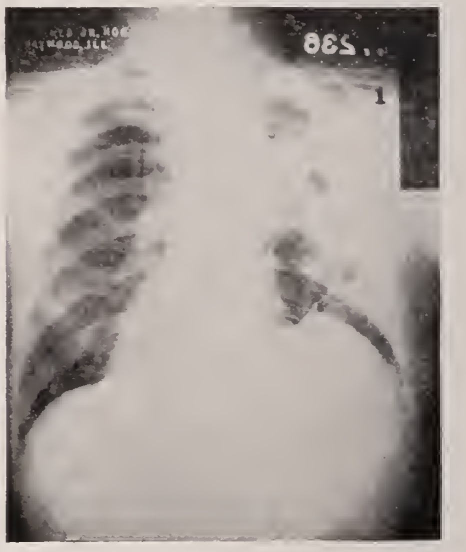
A REVIEW FOR PHYSICIANS

Atelectasis is defined as imperfect expansion of the lung. The condition is usually considered to be due to a gross obstruction in, or compression of, one of the larger bronchi, which prevents the expansion of the distal alveoli and causes their collapse. Several recent articles point out that atelectasis is a frequent occurrence in pulmonary tuberculosis and that it accounts for many of the physical and x-ray signs usually attributed to the tuberculous lesions. An understanding of the mechanism of atelectasis in pulmonary tuberculosis helps to clear up many of the puzzling phenomena of physical signs which cannot logically be accounted for by the existing pathology.

ATELECTASIS IN PULMONARY TUBERCULOSIS

Atelectasis in pulmonary tuberculosis may be caused in a number of ways. Tubercle bacilli commonly lodge in the terminal bronchioles where ciliated epithelium is not present and there tubercles are most likely to develop. The alveoli, or air cells, distal to the terminal bronchioles collapse and eventually become indurated. Large bronchi are also frequently invaded by the tuberculous process and produce atelectic areas distally. Extensive atelectasis is of common occurrence in chronic, fibroid tuberculosis, due to occlusion of bronchi by scar tissue or caseous material. Large tuberculous lymph nodes may, by pressure on the trachea or bronchi, cause patches or even extensive masses of atelectasis.

Apart from bronchial occlusion, there are other factors which favor atelectasis. In tuberculous lesions, particularly cavities, the air exchange is poor and the air pressure in cavities may be greater than the atmospheric pressure. Lobules supplied by bronchi intercepted by such cavities are likely to be collapsed. Atelectasis is probably favored also by the methods of treating tuberculosis; extended rest in bed, breathing with little effort, avoiding cough.



Tuberculosis of right lung. The right hemithorax and lung are contracted; the heart and trachea are displaced to the right and the diaphragm is elevated on this side.

X-RAY SIGNS OF ATELECTASIS

A characteristic anatomical finding in pulmonary tuberculosis is the small lung with elevated diaphragm and displacement of the mediastinum to the affected side. The diminution in size of the lung and the visceral displacement are not caused by contracting fibrous adhesions, for these changes are frequently observed early in the process before adhesions of any extent could form. Moreover, these findings also occur in types of tuberculosis that are not usually associated with fibrosis (miliary and pneumonic).

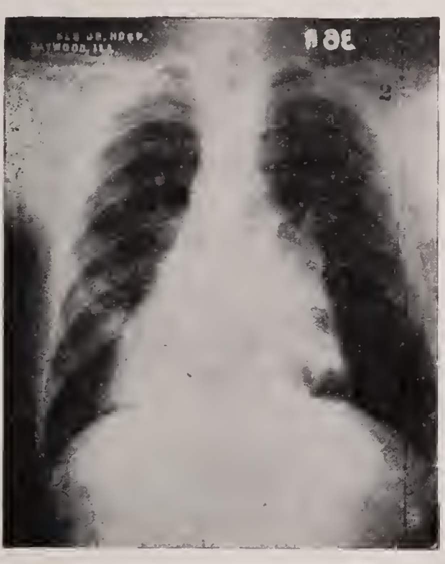
Bushnell finds displacement of the heart a very early sign and a delicate index of the existence of disease of the lungs. Norris finds a decrease in size of the entire hemithorax in unilateral, early tuberculosis. By fluoroscopic examination of cases with unilateral tuberculosis, the mediastinum is seen to move pendulum-wise toward the affected side during deep inspiration and back to the normal side during forced expiration. These and other observations indicate that the contracted lung of tuberculosis and visceral displacement are not always due to adhesions but are more often a manifestation of airlessness of the affected lung.

PHYSICAL SIGNS OF ATELECTASIS

Contraction of the affected side and restricted mobility are observed by mensuration and by inspection in early cases of tuberculosis. By percussion can be demonstrated signs of contraction of the entire lung, elevation and small excursions of the diaphragm. The earliest findings by auscultation are impairment or absence of the vesicular murmur and the gradual establishment of the bronchial murmur. Atelectasis accounts for or explains these changed breath sounds.

In more advanced lesions, physical signs become more pronounced; rales appear, and the mediastinal displacement comes into evidence. One of the most important signs in tuberculosis is the finding of rales during inspiration immediately following the expiratory cough. Such rales are due to the opening and closing of collapsed air passages as a result of forced breathing. As a tuberculous process becomes arrested, the atelectic areas show the presence of an increased amount of fibrous tissue; the alveoli are then permanently collapsed and rales can no longer be elicited.

The characteristic physical signs mentioned seem to be due to atelectasis rather than to the specific tuberculous infiltration.



Artificial pneumothorax induced without difficulty . The right hemithorax is normal in size. The viscera are in normal position.

THE MECHANISM OF ATELECTASIS IN TUBERCULOSIS

In the newborn, the lungs completely fill the chest and the intrapleural pressure is equal to the atmospheric pressure. As development proceeds, the chest grows more rapidly than the heart and lungs, which causes the intrapleural pressure to become negative. Decrease of the lung volume in atelectasis or cicatrization further increases the negative pressure in the intrapleural space on the affected side. This causes a displacement of the mediastinum to the affected side. For the same reason, the diaphragm on the affected side is elevated by the abdominal pressure.

Atmospheric pressure on the outside of the chest causes the crowding of the ribs, the deviation of the sternum, and the curvature of the spinal column. These abnormalities are more pronounced during inspiration because the intrapleural pressure is further lowered during this phase of inspiration since the collapsed lung cannot inflate sufficiently to fill the created space. During forced expiration, the conditions are reversed and the increased intrathoracic pressure is spent not in deflating the lungs but rather in displacing the mediastinum, which explains its pendulum movement.

As the absorption of air from the tissues is a rapid process, the visceral displacement is an early sign in tuberculosis, pneumonia, and in other diseases in which atelectasis occurs.—Atelectasis in Pulmonary Tuberculosis, Ephraim Korol, Amer. Rev. of Tuberc., May, 1931.

TREATMENT OF ATELECTASIS IN PULMONARY TUBERCULOSIS

Lobar atelectasis or massive collapse has become a well recognized clinical condition. It is due to bronchial obstruction, complications of chronic pulmonary disease, tumors causing pressure. Glenn believes that lobor atelectasis, when occurring in pulmonary tuberculosis, is usually caused by obstruction of the bronchus to the lower lobe by pressure from a tuberculous lymph node or by contracting scar tissue. In his cases, atelectasis has developed slowly. He admits that none of his cases were bronchoscoped or came to autopsy and that, therefore, exact information concerning the etiological factors is not available.

Textbooks and medical literature give little information concerning the treatment of atelectasis as a complication of pulmonary tuberculosis. Aeration is sometimes restored without treatment. If the collapse has a sudden onset and the patient shows no tendency to hemorrhage, rolling the patient backward and forward with the involved side upward is sometimes effective.

The first patient with atelectasis treated by the author with artificial pneumothorax showed such marked improvement that the treatment was repeated in other cases thereafter. He reports seven cases of lobar atelectasis as a complication of pulmonary tuberculosis.

All seven cases were of the left lower lobe. Six cases were treated with artificial pneumothorax and all were benefited. In at least two cases, the prognosis was changed from unfavorable to favorable. One patient could not be given artificial pneumothorax because the pleural space was obliterated by adhesions. He concludes that atelectasis, when a complication of pulmonary tuberculosis, is not difficult to recognize if the likelihood of its being present is realized, and that artificial pneumothorax is the logical treatment for this condition.—Massive Atelectasis in Pulmonary Tuberculosis and Its Treatmet by Artificial Pneumothorax, E. E. Glenn, Amer. Rev. of Tuberc., May, 1931.

THE SOCIETIES

The July meeting of the **Madison Five Counties Medical Society** was held at Hotel Norfolk, Norfolk, on the 28th, one of the hottest days of the summer with a largely curtailed attendance, due no doubt to vacation time and the weather. The program was: "The White House Conference on Child Welfare and Protection" a—Problems in Obstetrics, b—Educational Opportunities in Obstetrics for Practitioners—Dr. Palmer Findley, Omaha; "Gallbladder Diseases"—Dr. Max Emmert, Omaha. Doctor Findley gave a short review of the White House Conference, then devoted himself to what he conceives to be the inadequate practical teaching of obstetrics in medical schools of the country. He several years ago originated propaganda looking toward more hours of obstetric teaching. Doctor Emmert reiterated his theory of an appendico-biliary syndrome. When gallbladder symptoms have existed for a year, removal is called for. No patient will make complete recovery following operation in a few weeks—months of dietic care are necessary.

The third quarterly meeting of the **Cedar, Dakota, Dixon, Thurston and Wayne Counties Medical Socie-**

ty was held at Winnebago on August 7th with a very good attendance. The program was as follows: "Syphilis from a Skin Specialist's Standpoint", Dr. Alfred Shalek, Omaha; "Oral and Dental Lesions of Syphilis", Dr. J. H. Davis, Sioux City, Ia.; "Syphilis from a General Practitioner's Standpoint", Dr. J. D. Lutton, Laurel; A Talk on The University of Nebraska, Dr. A. C. Stokes, Omaha; "Indian Medicine Lore", Mr. Cary LaFlesche, Walthill; A Moving Picture of Colles' Fracture by the Petrolagar Co. A number of the members were shown through the Indian Hospital after the program. A number also remained to witness the evening performance of the Winnebago Indian Pow-Wow. —Stuart Cook, Sec.

HUMAN INTEREST TALES

Dr. G. W. Briggs, formerly of Decatur, has located at Walthill.

Dr. L. D. McGuire, Omaha, submitted to a herniotomy, last month.

Dr. William Hughes, formerly of Omaha, has located at Bancroft.

Dr. A. A. Larsen has moved from Gurley to Homer, the home of his youth.

Dr. F. G. Vosica, Clarkson, was operated on in an Omaha hospital recently.

Dr. and Mrs. George B. Potter, Omaha, spent their vacation at Lake Okoboji.

Dr. and Mrs. H. Melerian, Plainview, visited Yellowstone Park in August.

Dr. and Mrs. C. W. M. Poynter, Omaha, motored in New England in August.

Dr. P. L. Gillespie, for 25 years in practice at Wymore, has located at Barneston.

Dr. Clyde Moore and family, Omaha, spent their vacation at Sylvan Lake, S. D.

Dr. Adeline Ashton, Chicago physician of note, visited relatives in Omaha, in July.

Dr. and Mrs. A. J. Brown, Omaha, spent several weeks at Lake Okoboji last month.

Dr. and Mrs. J. F. Langdon, Omaha, spent some time near Bemidji, Minn., in August.

Dr. and Mrs. E. H. Porter, Omaha, have returned from a trip to the Hawaiian Islands.

Drs. A. D. and Lowell Dunn, Omaha, were trout fishing in Idaho the first part of August.

Dr. and Mrs. Warren Thompson, Omaha, spent their vacation at Medicine Bow, Wyoming.

Dr. A. F. Tyler and family, Omaha, spent their vacation period on Lake Gilmore, Minong, Wis.

Dr. and Mrs. C. B. Foltz and daughters, Omaha, spent the month of August touring in Wyoming.

Dr. Noel Tyson has located at Murray, in succession to Dr. G. H. Gilmore who intends to locate in the west.

Dr. and Mrs. P. H. Salter, Norfolk, spent several weeks in the Land o' Lakes country in northern Wisconsin.

Dr. W. E. Doane, former North Bend physician, has opened an office at Fremont and will devote himself to eye, ear, nose and throat work.

Dr. R. B. Adams, Lincoln, secretary-treasurer of the Nebraska State Medical Association, spent a six weeks' vacation in the Canadian woods.

Dr. E. I. Conner, medical missionary of Sierra Leone, Africa, is in the state on leave of absence and is lecturing under the auspices of the United Brethren church.

The passing of Dr. T. V. Norvell of Omaha is noted by the press. He is said to have graduated at Ann Arbor in 1867, practiced in southern Indiana until 1884 when he moved to Nebraska, homesteaded and abandoned the profession. He lived at Norfolk for many years, where he was police judge and U. S. Commissioner but was not known among the profession as a physician. He died July 30th at the age of eighty-five.

ROSTER OF OFFICERS—1931

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J. M. Willis, McCook, Vice President	1932
F. B. Young, Gering, Vice President	1932
R. B. Adams, Lincoln, Secretary-Treasurer	1933

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A. E. Cook, Randolph	1933
Morris Nielsen, Blair	1931
Frank Tornholm, Wahoo	1931
H. E. Potter, Fairbury	1931
W. J. Douglas, Atkinson	1931
R. D. Bryson, Callaway	1932
L. W. Rork, Hastings, Chairman	1932
C. A. Selby, North Platte	1932
A. L. Cooper, Scottsbluff	1932

DELEGATES TO THE A. M. A.

B. F. Bailey, Lincoln	1931
R. W. Fouts, Omaha	1932

DELEGATES TO COUNCIL ON MEDICAL EDUCATION OF THE A. M. A.

J. S. Welch	Lincoln

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THE SIGNIFICANCE OF THE PSYCHONEUROSES IN THE GENERAL PRACTICE OF MEDICINE*

FRANKLIN G. EBAUGH, M. D.,
Director, Colorado Psychopathic Hospital,
Professor of Psychiatry, School of Medicine, University of Colorado,
Denver, Colorado.

Each year the relationships of psychiatry to the problems of general medicine are becoming closer. These relationships are especially shown in present day emphasis given the study of the psychoneuroses. These mental conditions are the most frequent ones encountered by the general practitioner and the least understood. For instance, Peabody states that physicians find that one-half of their patients, excluding acute infections, are suffering from symptoms for which adequate organic cause cannot be discovered. The psychiatric approach to the psychoneuroses and minor psychoses means the study of the whole patient. In these studies the personality make-up, the personality being considered as the synthesis of all past experiences and contents in the emotional life of each individual, must be studied in addition to the fundamental physical and laboratory investigations. The psychoneuroses encountered by the general practitioner may be classified into three main, over-lapping groups: (1) hysterical reactions; (2) anxiety states; and (3) obsessional states.

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*Read before the Elkhorn Valley Medical Society, Norfolk, Nebraska, August 26, 1931.

In hysteria the symptoms indicate the fulfillment of an unconscious wish. The wish and its realization may be symbolical or material. Hysterical deafness, for example, may achieve a wish to avoid hearing persons that possess an objectionable and unpleasant significance to the unconscious. Many war hysterias were of this nature and the symptoms disappeared when the symbolical meaning was discovered by the patient. Hysterical symptoms may be classified as follows: (1) Sensory. This includes involvements of all the special senses, hysterical blindness, deafness, varying degrees of loss of sensation, paresthesia, hypoasthesia, hyperasthesia in all degrees; (2) Motor symptoms. This involves all varieties of disturbances of motility, incoordination, ataxia, contractures, etc.; and (3) Mental symptoms. This involves the hysterical grand mal attacks, convulsive seizures, amnesia states, fugue states and dissociative phenomena.

Anxiety states are conditions in which the symptoms are grouped around a central core of anxiety and anxious expectation. They are difficult to differentiate from states of hyperthyroidism and in their clinical symptomatology simulate almost every type of disorder referrable to the various systems of the body. The following symptoms are characteristic: (1) General irritability. (2) Anxious expectation. A man who suffers from anxious expectation will imagine that his wife, if she has a common cold and coughs, is going to have a fatal pneumonia and will at once see her funeral in his mind's eye. There is a general apprehensiveness and tendency to look on the dark side of things. Something is impending. Something will happen. (3) The anxiety-attack and panic, fear of death, fear of insanity, fear of a stroke with accompanying disturbances of one or more bodily functions such as respiration, heart action, vasomotor innervation or glandular activity. Patients complain of difficulty in breathing, precordial pain, drenching sweats, etc. It is very important to differentiate these anxiety attacks from organic conditions and the following are most frequent: (a) attacks accompanied by disturbances of cardiac function such as palpitation, either transitory arrhythmia or tachycardia (pseudo-angina pectoris); (b) attacks accompanied by disturbances of respiration, all types of dyspnoea, attacks similar to asthma; (c) attacks of sweating, usually nocturnal; (d) attacks of tremor and shuddering; (e) attacks of ravenous hunger; (f) attacks of sudden diarrhoea; (g) attacks of vertigo; (h) attacks of paraesthesias. (4) Awakening in fright (pavor nocturnus of adults). This is combined with morbid anxiety, dyspnoea, sweating and insomnia. (5) Vertigo takes a prominent place in the group of symptoms of anxiety states. Its mildest form is best described as giddiness, a feeling that the ground is rocking, one's legs are giving way or are heavy as lead and shaky and wobbly. Dizziness never leads to a fall. (6) On the basis of chronic apprehensiveness and anxious expectation there are many phobias such as fear of snakes, thunder storms, darkness, vermin or a typical claustrophobia and agoraphobia. (7) Digestive disturbances such as nausea and biliousness are frequent. Ravenous hunger has been mentioned previously. A tendency to diarrhoea is frequent. (8) The paraesthesias which accompany attacks are quite frequent.

Obsessional states include pathological developments that are marked by an inner drive either compulsory or inhibitory, primarily affecting thought and secondarily behavior. In the discussion of these three types of psychoneurosis we should note that hysteria affects behavior, anxiety states are concerned chiefly with changes of emotion (irritability, panics and fears), while the obsessive states involve primarily the intellectual sphere. Hysteria affects commonly the extrovert individual, while obsessional states represent an exaggeration of the reaction of the introvert. The introvert is a thinker rather than a doer and tends to be overly scrupulous and has a tendency towards fruitless speculation. Obsessional symptoms (certain acts must be performed) are well known to every physician. For instance, one of my patients insisted on walking on or between the cracks of the pavement. Another insisted on striking every lamp post with his cane. Still another was very much concerned with the thought of hurling himself over a cliff or under an oncoming train. Obsessional doubts are found in the patient who says, "I know I have done it but I feel that I haven't." One patient had a constant fear after posting letters that he had dropped them on the ground instead of putting them in the letter box. Another patient had to get up in the middle of the night to see if the door was locked.

Obsessional thoughts are common in the symptomatology of these states. One man, for instance, was made miserable because he could not get rid of the disturbing idea of seeing pictures of nude persons of the opposite sex. He was especially concerned by this obsession in that it was associated with excessive prudery, and he was not only a bachelor but a minister. Another clinical example was that of a very successful business man who was impelled to speculate upon such things as the infinity of the universe and the attributes of the Almighty, what it is not to be born, and whether vision depends upon the projection of a material substance. He described these obsession thoughts as representing an intellectual debauch. an inclination to indulge and an inability to resist which leads to terror. Obsessional acts are, of course, well known to every one. Dr. Johnson was seen to walk along the court and touch every post as he passed. On omitting one he retraced his steps to complete his ritual. There is the Biblical instance of a compulsion to go on all fours and howl like a dog in Nebuchadnezzar and the handling of this compulsion by the prophet Daniel who distinguished himself as a pioneer psychotherapist. Numerous other rituals and obsessive acts and tics are well known to every medical man.

Perhaps a clinical history would be of value.

R. M., school teacher, aged 29, entered the clinic complaining of nightmares. During these nightmares she had a feeling that she was being crushed by someone, someone was trying to get her and she was trying to escape. She was afraid of closed places, unable to sleep in a lower berth, and frequently woke up in the middle of the night terrified. The present trouble has been more marked during the past five years. The attacks of terror developed usually one hour after she went to bed. She has had numerous experiences of walking in her sleep and on one of these occasions she injured herself when she was apparently trying to get out of a window and was struck on the nose when the curtain pole fell on her. On another occasion she became terrified and felt that she had something in her hand which she refused to let go of. When she awoke she was holding on to the bed post. At another time she got up and walked in her sleep to the pantry knocking down the pans. When she awakened she was frightened and hid in the closet. In another nightmare her bed was lying in American Beauty roses and the iron stems were crushing her. When visiting her friends she was very much embarrassed on these occasions and usually tried to explain them by saying that she was not asleep. She was very much afraid that her sister might get caught in a folding bed. Her personal history is essentially negative with the exception of a most unhappy childhood (this is usual in a psychoneurosis). The father deserted at the age of four and the mother had difficulty in taking care of the family of two children and frequently threatened suicide. The girl developed extensive feelings of inferiority, that she was different and didn't belong. She spent her early years in an Episcolanian rectory and during her adolescence was sent to an Episcopalian boarding school where her sleep difficulties began. She trained herself in music and at the present time is a successful music teacher. The physical examination was completed by an internist before she was referred for psychiatric study. It was found to be entirely negative, likewise all laboratory examinations including basal metabolism were normal. There were eight interviews with the psychiatrist and the background of her trouble was gone into quite thoroughly. This background briefly consisted of the following:

1. Extensive feelings of inferiority on basis of:

a. Early childhood experiences, favoritism, antagonism and jealousy in the family group of aunts and cousins; and

b. Deprivation of group contacts from ages of 5 to 10 following recovery from epidemic meningitis with a residual of complete deafness on the right side.

2. Repressions and mental conflicts centering around autoerotic activities (masturbation), feelings of guilt, fear of being sexually abnormal, fear of homosexuality based on experiences in boarding school and the activities of a real homosexual aunt who had made advances to her sister and a friend closely attached to patient.

3. Miscellaneous life experiences and conflicts centering around early fear that mother would die or leave her, unsuccessful love affair four years ago (1927), religious conflicts, conflicts regarding vocation and miscellaneous family conflicts centering around family pride, desire to excell, preoccupation concerning suicide of aunt, alcoholism of uncle, divorces, distrust of men, etc.

Methods of treatment in this case consisted of psychotherapy. By psychotherapy I mean efforts to influence in the right direction the attitudes of the patient—to influence her attitudes towards herself, towards her mental and physical processes and towards her environment. In the treatment of this case psychotherapy resulted in the patient's understanding herself, her illness and the causes of this illness which were obtained in her environment and in the superficial and deeper layers of her mental life. Repressed memories were touched by means of the free association method. I will indicate briefly the main free associations in this analysis which centered around the patient's main complaint, that of being crushed during the nightmares, giving also miscellaneous associations which helped the patient to establish an understanding of her problem.

Free Associations: The word "crushed". "It is always the same sensation in my nightmares. I am always being crushed. I had a teacher in school. It was a crush. I think of things I did in school—the first day I went to school and how lonesome I was. The teacher helped me. She took care of me when I was sick. She was a gymnasium teacher. I remember seeing her dress—she wore a beautiful black dress and I watched her. She was putting perfume on. I had sexual feelings around her. I saw her two years ago but we have grown away from each other. I used to like to be with her always. I had a room mate named Grace who had a crush on her. She gave me a gold fountain pen with my name on it. She always had something the matter with her—an operation on her nose, appendix operation, had her ovaries out. She was a neurotic. She went to the hospital with me when I had my tonsils out."

"I think of my sister when she crushed her finger. It was the first time we ever rode in an automobile. It was when I was 8 years old. We were invited to a birthday party. My sister did not say anything about it in that she was afraid we would miss the ride—they noticed the blood on her dress. The doctor put her hand in a sling and told her not to let it down. I stayed awake all night so she wouldn't let it down—I was afraid she would lose her finger."

"I think of the time she scalded her shoulder. My sister thought I would die when I got small pox—I thought so, too. I used to walk by a house where there was a case of small pox without breathing.

After my sister scalded her shoulder I would lie awake at night and watch out for her and keep her shoulder from being bumped. When I was 18 she had scarlet fever and I took care of her."

Love. She thinks of her one love affair four years ago with a man who was divorced. "I could not marry a divorced man. I was in love with him. He went to Canada and I regretted not marrying him ever since but have always felt that no second marriage was ever happy. I have seen so many unhappy marriages. My mother has been married twice, my uncle three times and my aunt twice. I had many religious conflicts over these and after this I didn't believe anything. I went through a lot of turmoil. He was everything I wanted a man to be—tall, intelligent, military major and blonde." At the age of 16 she had a puppy love affair as characterized by her with the brother of her chum. She wore his ring for awhile. At the age of 20 a divorced man proposed to her. "I couldn't stand him to touch me. I was going to marry him because I was tired of work." She interrupts here and states that she thinks men are horrid and that she has no use for them. She gives her reasons as follows: (1) her father gave her a bad start, never supporting them; (2) "my step-father is jealous of me. Six years ago he forced us to leave home, saying mother had to choose between him or me"; (3) "The man I loved got over it very quickly and married someone else"; (4) "My uncle made three marriages. He is a typical minister's son. One wife committed suicide"; and (5) "My grandfather is the only man I have known who was fair." She interrupts here again and states, "I am glad that my sister has turned out right. I have always worried regarding her. She decided to be like my aunt."

Fears. She is afraid of horses, of people's opinion, especially that people may have a bad opinion of her, she is afraid of criticism, afraid she might lead a wild life and be criticized for it. She is afraid she might turn out like her aunt—smoke, drink, go to cabarets, etc.

When asked what the worst thing that could happen to her is, she states directly that it would be to lose her sister and mother, mentioning her sister first; second, "that I would be dependent on somebody"; and third, "that I would lose my pupils. I am very dignified with my pupils, I don't get close to them."

When asked to give her three leading wishes, she states, "First, I would want to be a balanced, normal person that is healthy and happy. I have never been happy. I would want to have happy relations with people. Second, I would wish that I could study more and become more efficient in my work. Third, that mother would be happy. My mother worries me. She is not happy with my stepfather and can't be happy without him and she wants her children with her."

"I wondered if I would fall in love more with women than with men." She describes various experiences her aunt had indicative of homosexual practices. On one occasion she lived with a girl whom she made wear boy's clothes, etc. "My aunt got a violent crush on her chum and she responded. I always tried to keep my sister away from my aunt. She got jealous of my sister one time and went after her with a gun. My aunt looks something like me."

She was asked to give her associations regarding closed places. "I fight losing consciousness. I have a horror of it. The constant danger of being crushed. I wouldn't go into a cave or a mine. I have a feeling like I am hemmed in. I can't sleep or be comfortable in a lower berth. I have a feeling of being inclosed in a tight place. Like the floor and the ceiling were meeting."

Masturbation. She states that at the age of 8 she was taken care of by a girl who taught her. She continued this until two or three years ago. She states that it "was not nice. It was wrong. It made me feel nervous and upset, made me shaky inside, made my arms feel weak and made me digusted with myself. Nice people did not do these things. I wondered if it did cause anything. I read an article that it might cause epilepsy 10 years ago." She does not admit that she was markedly upset about this in that she did not accept the opinion of the physician that her nightmares were on an epileptic basis or on the basis of a taint in her blood.

She states that her sister sleeps in a folding bed and she is constantly in dread of it folding up with her in it.

She recalls being called a half-wit by her mother when she broke a plate glass. This has always bothered her. She recalls an experience when she was 7 years of age when she fell off a bike and skinned her nose. She was resentful toward her mother because she expressed no concern about her nose but was glad she did not fall into the river.

With considerable emotion she recalls seeing a dead person. "I can still see her. It was my first year in high school. She died of pneumonia. I did not want to go to the funeral. I continued to think of her often after she died, particularly when I went to bed. She looked like marble, cold and unnatural. I never have gone to a funeral since if I can help it."

Free association of words: The word "death" was given to her. "I would see that girl I told you about. I think of how I worried, of how it would be if mother would die. As far back as I can remember she was nervous and high strung. She had terrific headaches. She lies awake at night and worries. She comes to me for sympathy, and used to upset me tremendously. I used to reflect her mood. I know a little girl who has nightmares. She is musical, too. My mother knows her mother quite well. Mother always insisted on my getting plenty of sleep, and would not like for me to stay up late."

The word "nightmare" brings up religious difficulties, recitals, worry about a child who was in her care at the time of the Hickman case. She worried about this child being kidnapped. It also brings up feelings of insecurity, sex tension and general family worries, a feeling of being dependent, of illness, of losing her position, of being crushed, and of airplanes. She tells with considerable emotional display of a music teacher telling her that she was afraid her mother was going to die since she looked so badly.

Free association of the word "terror." This means fright, fears, nightmares, earthquakes, fears of a circus. "I always felt when I was a child that animals would get loose. I didn't enjoy things like other children. I was always afraid things would happen. When I first got home from school I would yell for mamma. She was always my first thought. She was the only person I would kiss."

The word "inclosure." "This means being crushed. I can't get out. It means being suffocated. It means death. I am not afraid of dying myself. I am afraid my sister will die. She is my main interest in life. I used to think how it would be to be buried alive. Once I was covered with sand at Santa Cruz. (10 years ago). I read a book once about a man being buried alive. I always feel so sorry about my family."

In an analysis of this type, psychotherapy was completed through the following common sense methods:

1. The establishing of rapport between the

physician and the patient. This rapport, to be effective, must be based on a certain amount of respect and confidence on the part of the patient. It is best furthered by a careful investigatory program instituted by the physician at the first interview. The more completely the history, physical examination, mental examination, serological and blood tests are done, the more the patient feels he can depend on the results of those examinations. The physician must be quite frank in the matter. It is quite proper to tell the patient that before any final opinion can be given it is necessary to complete the study of his case. This causes no difficulty provided the physician has a definite investigative procedure outlined and starts the patient on it at once. Any patient is willing to wait for accurate information before the physician begins treatment.

2. Aeration, or ventilation, of the conflict material. This meant a thorough discussion of homosexuality and the identification she had in many ways with her aunt who was homosexual.

3. Desensitization, wherein the patient was required to face frankly the traumatic and unpleasant experiences of her past. Here the patient had a good reaction with considerable emotivity when she described her painful thoughts and conflicts centering around the sex situation.

4. Re-education, which still continues, and is carried out in connection with all the above psychotherapeutic procedures. It is essentially the development of clear insight on the part of the patient into the mechanism of her illness, the establishment of new habits of response and the formulation by her of an adequate industrial, social, recreational and activity program to insure future stabilization.

The patient is doing well. She is now enjoying contacts in a mixed group where she demonstrates heterosexual interests, enjoys dancing. She is now visiting caves without her former panic, sleeps in a lower berth, and is looking upon herself as an average normal individual. Likewise. she is making changes in her vocation, plans to undertake further training in her music, is ceasing to overprotect her sister and talks frankly and freely about her former nightmares. At the last interview she stated that she would be interested if further nightmares occur and if they do if she could connect them definitely with her thoughts and past experiences.

The patient just reported is representative of an anxiety state centering around pavor nocturnus. The resolution of the anxiety syndrome by analysis has been briefly indicated. The following patient was seen in consultation in an active medical clinic and resolution was complete following two interviews.

J. P. H. A white male, 40 years of age, single and unemployed. Formerly a railroad employee. Consultation report following request for psychiatric consultation from medical out patient clinic of Colorado General Hospital.

Problem as referred: Extreme restlessness, cold hands and feet, constipation, and throbbing sensation in the abdomen and "it went right down and got into my genitals." The patient states that he feel panicky.

Onset and development: The present condition came on suddenly after edentulation (in three sittings). The patient entered the medical clinic of the Colorado General Hospital in February, 1931, complaining of toothache, decayed teeth, etc. He had been to a dentist previously, in the summer of 1930, and at that time was advised to have the teeth extracted. He became very much agitated and decided to try his own methods to save them. During the fall and winter months he spent a great deal of time on his teeth, using various dentifrices, mouth washes, and patent medicines for treatment of pyorrhea. As this occupation continued it became more intense and the patient became more and more preoccupied with the problem of his teeth. He would think about it for hours and question everyone whom he met about ways to save his teeth. His interest broadened so that to him the vital interest in not only himself but it others, became the status of the teeth. He would question members of the family and, indeed, chance acquaintances about their teeth and compare notes, as it were. This preoccupation was annoying to others and to himself, particularly the feelings of jealousy engendered when he found other men of his age or younger whose teeth were in better condition than his own. These feelings of jealousy and envy were particularly strong in regard to his brother, aged 35. The brother is married and lives with his wife and children in the same house as the patient. He is a breadwinner and contributes to the support of the patient who is out of work. The immediate family of the patient sensed that there was something unusual in the patient's attitude and felt that "his mind was slipping."

The patient is the oldest of a family of three children. He has lived with the parents without intermission. Attended school through the 8th grade and then began work. As a boy was healthy but shy and backward about mingling with "the gang." He has a very vivid memory of his maternal grandmother who had false teeth and who was wont to tell ghost stories to the children, removing her false teeth and making ugly faces. The patient remembers being frightened by his grandmother and says that ever since he has had a horror of false teeth.

The patient has always been an industrious worker and has taken pride in being able to and in the support of his now aged parents. He says, "I've always been a home boy and count it my greatest pleasure to have been able to love them and care for my parents." He has never felt like marrying because of this parental attachment. He states that he began masturbation as a young boy and has struggled with it ever since. In recent years he has become very religious and has found help in this way in overcoming his sexuality. He states, "I've been in love a few times but never engaged." One finds on further questioning that these affairs have been adoration from a distance and that he has always lacked courage to enter into any courtship. He states, "I have a girl all picked out back East and maybe if I'm not too old I'll marry after my parents die." One finds on questioning that this girl is not aware of his plans; indeed, he has not seen or written to her for several years. On a few occasions he has sought intercourse with prostitutes but these attempts have been failures as far as satisfaction is concerned.

When asked concerning his activities during the war period he states, "I was a spy if you must know," but further questioning brings out, "I worked on my own." He then shows considerable affective display with tears in the eyes when he relates the death of a "buddy" in France.

The patient's own reason for the anxiety displayed concerning loss of teeth is that he looks so badly without them and that he feels so self-conscious—feels that people are laughing at him, etc. He does not seem to feel that false teeth will help much—"people will still be able to tell I haven't any teeth."

Disposition: This case was seen by the psychiatrist in several interviews. The history was thoroughly gone into and an association of early masturbatory activity with the grandmother established. She had surprised the patient in masturbation and had thoroughly frightened him by threats of castration and of ill health, etc. The fear of edentulation was established as a displacement fear of castration. The patient's sexual maladaptation and feelings of organ inferiority on this basis served to accentuate this fear. Completion of the dental plates was hurried up and attempts were made to enable this individual to make a better psycho-sexual adaptation, through readjustment, emancipation program, etc. The panic state rapidly resolved itself after a few interviews.

Formulation: Psychoneurosis—obsessive ruminative tension state.

Summary: This case was seen by the psychiatrist working in conjunction with a general medical clinic. A few interviews sufficed to identify the situation and to resolve the panic state. Further reports from the family indicate that the patient is getting along well. He has returned to work and no longer worries over his teeth.

DIAGNOSIS

Recognition of the psychoneurotic personality type is usually possible. A relatively large proportion of people making acceptable adjustment belong to this class. A careful inquiry, made in such a way as to avoid offense, will usually reveal some defects in the early environment of the patient. The important items to be discovered are: instability of the home due to quarreling, separation, divorce, alcoholism, or neurotic or psychotic conditions of the parents; over-solicitousness of the family regarding the patient; poor habit training in the home; excessive responsibility forced on the child at an early age; inadequate or false sex instruction; or any other environmental factors which may make for feelings of insecurity in the patient. In addition neurotic patterns in the family tend to be imitated.

At least 85% of these patients show neurotic traits in childhood. We discover here a history of enuresis, fainting spells, convulsions in infancy, frequent headache, dysmenorrhoea, sleep walking or talking, night terrors, fears of the dark, of high places, of thunder storms, chronic constipation or attacks of diarrhoea, attacks of twitching, palpitation, shortness of breath, or chronic anxiety, together with a tendency to prolong the convalescent period after any illness. Mental deficiency, with retardation in school and economic adjustment may be present.

As predisposing factors in later life, we may find in addition to the above, chronic disease, sex conflicts, financial worries, restricted social outlets, or other causes which bring about a general feeling of insecurity.

Any prolonged illness or convalescence, especially if precipitated by an accident or operation or if associated with more or less acute conflicts, makes us consider the possibility of a psychoneurosis. The physician should avoid attitudes of overconcern as the patient is quick to adopt them. The factors to be searched for are deaths or illnesses in the family, recent childbirth, sudden increases in responsibility, difficulties in emancipation from home, vocational maladjustment, sex disturbances, sudden fright, and marital or financial crises. The psychoneuroses in general, offer a means of escape from such situations. If compensation for injury, or the prospects of suit for damages due to accident or operation are involved, the suspicion of a psychoneurotic condition is increased. It must be kept in mind that the symptoms have a definitely useful basis for the patient.

A psychoneurosis cannot be diagnosed in the presence of physical findings adequate to account for the complaints. The confusion here may be caused by the paralytic or anaesthetic symptoms in hysteria, or by the palpitation, tachycardial attacks, and dyspnoea often present in the anxiety and fear states. The paralyses and anaesthesiae of hysteria can be recognized by their failure to correspond with the possibilities of organic neurological lesions. Cardiac diseases can be ruled out or properly evaluated by means of careful physical examination, electrocardiography, urinalysis, and x-ray of the chest. The most difficult differential diagnosis is between an anxiety state and a toxic thyroid condition. Both conditions show anxiety, tremor, tachycardia, weakness, rapid pulse, etc. Basal metabolic rate determinations can be relied on only if one is certain that the patient is completely relaxed during the test. One of our patients had a basal metabolic rate of plus 72. The breathing was regular during the test and it had been considered satisfactory by the laboratory. Yet we found that during the test she had kept herself rigid in bed in order to keep from moving. On subsequent tests, with proper care, the rate fell within normal limits. The chief mental finding in the psychoneuroses is predominantly overconcern regarding symptoms. We see some patients who are obviously frightened at the most insignificant abnormality, and others who compain that they have serious symptoms, express grave concern but smile all the while and seem quite content to be ill. The former usually fall into the fear and anxiety group of reaction; the latter fall into the hysteria group. Multiplicity of complaints of pains and discomfort, characteristically hypochondriacal and often shifting from one region or organ to another occur frequently in all groups. Anxiety, fears, obsessions, and compulsions are fairly characteristic of the anxiety group. Ideas of reference, or of persecution, or suspicious attitudes, are found in a small per cent of all groups. Objective depression is rare. Suicidal attempts may occur, but usually they take the form of insincere threats. Occasionally suicide may take place, but never occurred in our series.

Our statistics indicate further that a history of treatment by a great many physicians should lead us to suspect this type of reaction. If all of these factors are considered together the diagnosis should not be too difficult in the majority of cases.

The findings in the study of 239 cases of psychoneuroses admitted to the Colorado Psychopathic Hospital indicates the following:

1. Psychoneurotic predisposition is determined to some extent by:

a. Unfavorable early home like. (70% of the cases).

b. Constitutional predisposition. (85% of the cases).

c. Chronic disease, sex conflicts, financial difficulties, restricted outlets, and mental defect, play a leading part in from 3% to 12% of all cases.

2. The most common precipitating factors in the psychoneuroses are:

a. Sex disturbances, including conflicts over masturbation, illicit intercourse, puberty, and the menopause—22%.

b. Accidents, with or without injury—13%.

c. Marital crises—12%.

d. Financial crises—11%.

e. Operations—10%.

f. Death or illness in the family—each 9%.

3. The commonest physical findings are:

a. Operative scars—23%.

b. Focal infections—9%.

d. Physical defects—including developmental anomalies and operative amputations—9%.

4. The commonest mental findings are:

a. Overconcern expressed regarding the symptoms complained of—89%.

b. Anxiety—45%.

c. Fears, including fear of disease, death, insanity and the various phobias—33%.

d. Marked hypochondriacal trends—10%.

5. The most frequent characteristics of pre-hospital treatment are:

a. The patient had been seen by many physicians in 34% of the cases.

b. Operations were resorted to in 19%.

c. Sedatives had been employed routinely in 15%.

d. Quacks of various kinds had been consulted by the patient in 10%.

6. The result of hospital treatment shows recovery or improvement in 78% of these cases. (12% recovered, 66% improved).

7. 65% of the cases followed from one to five years show that 10% of the total group recovered and 35% were permanently improved. (This is equal to recovery and improvement in 70% of the group followed). Other studies we have made indicate that the follow up results for the entire group would be higher than indicated by results of hospital treatment.

TREATMENT BY THE GENERAL PRACTITIONER

The principal forms of therapy resorted to, as indicated by our records, are operative procedures and the use of sedatives. No doubt the majority, or even all, of the operations performed were advisable because of physical disease discovered. Yet we resorted to operations in the hospital in less than 10% of the cases. It is true that patients of this type do contract surgical diseases, and must be treated accordingly. When this is the case, it is of the utmost importance that the personality type be recognized and the patient properly prepared. It is unwise to promise relief from all symptoms. It is necessary that the patient be reassured regarding the dangers of the procedure. Above all, over-concern on the part of the physician will certainly bring about chronic invalidism in this type. It is an attitude to be avoided by the practitioner first contacting the case.

If the psychoneurotic reaction has not been discovered prior to operation, it will be evident during convalescence. Post-operative patients divide roughly into three classes: Those that insist on getting up early; those that are sensible and do what the physician advises; and those that tend to prolong the convalescence and remain in bed as long as possible. The psychoneurotics constitute a large portion of the latter group. When such a situation occurs it is necessary to insist on the patient increasing activity as rapidly as possible. Stimulation, reassurance, and insistence are effective. It will help greatly if the physician can take time to aerate and talk over in detail some of the conflicts the patient is evading and assist in their adjustment.

Treatments using sedatives, rest, diet, pleasure trips, and such palliative measures are not satisfactory. We find that activity to the extent of which the patient is capable; suggestion, encouragement and reassurance; frank discussion of the patient's difficulties with reeducation and advice as to a permanent solution; increasing the patient's social outlets and sphere of usefulness; and the provision of adequate recreational outlets; are the only effective measures in these cases. If sedation is advisable we utilize hydrotherapy in the form of continuous baths at body temperature, or warm wet packs. Very rarely we employ veronal in doses of two and one-half grains twice a day for short periods where there is tension and overactivity. More than this is never used because of the marked tendency of these patients to become dependent on the drug. They are not allowed to learn what they are getting and the prescription calls for diethylbarbituric acid.

Occasionally a physician is consulted for relief of masturbation. Sometimes he takes the course of frightening the patient by dwelling upon the evils of the habit. We have had four such patients in this group who were told that masturbation would weaken the mind or body, or that it produced changes so that people could tell that the habit was practiced. It is the consensus of opinion that no one has yet demonstrated such effects of masturbation and we have followed cases that have masturbated for many years without evidence of ill result. Our practice is to give simply and fully the physiological, biological and sociological facts regarding sex to all patients in this group, with reassurance as to the physical and mental status. Masturbation may continue, but the worries and conflicts of the patient subside, and he is much better, or with complete information the practice is often discontinued.

The treatment of psychoneuroses centers around psychotherapy, including the establishment of rapport, aeration, desensitization and reeducation as described in our case report. Psychotherapy is any form of healing which has as its object treatment by mental influence. This definition is intended to bring home to the physician the fact that within the whole range of medicine, in both physical and mental disorders, psychological factors of varying degrees of intensity are involved. Whether the case be one of manic-depressive insanity or the amputation of a limb, a phychological attitude must be adopted by the physician, whether psychiatrist or surgeon. The various shades of medical attitude are determined more by the degree in which psychology is involved than by the physical remedies used. The scientific recognition of the effects of mind constitute the general basis of psychotherapy. The bedside manner, atmosphere, discipline, kindness and the color of the medicine must all be recognized. The experienced physician knows only vaguely the extent to which his personality and enthusiasm contribute to his success. The physician's pride, too, makes him not infrequently oblivious of the fact that the patient may not like him and is not getting better as a consequence. This is particularly true of patients who are not profoundly ill. They often remain sick in spite of the physician and to spite the physician whom they do not like. Suggestion, re-education and psychonanalysis furnish the main methods of psychotherapy. Through these an actual re-living of the experience with the actual emotional coloring leading to the symptoms shown is possible. Re-living these emotions has been found to result in the cure of patients who manifest psychoneuroses. The instrument of psychoanalysis, the scalpel which is used to lay bare the psychological structure of mental disorder, is the instrument of free association. In order to obtain the free association of a human individual, the subject is made to lie in a state of complete physical relaxation upon a comfortable couch; this is the psychological operating table in the psychotherapeutic amphitheater. Following free association over an appreciable period of time, mental events are discovered which seem to have a relationship to the deep tendencies of the mind. Situations, feelings and thoughts connected with the past associate themselves with certain symptoms or peculiarities of conduct.

The lack of knowledge of the psychoneuroses and the treatment adopted by the general practitioner is largely due to faulty and inadequate teaching in our medical schools. It is only recently that many medical schools have begun to emphasize these mental disorders in their curriculae and have departed from the old fashioned teaching of "asylum diseases." The general practitioner, however, should not rationalize his lack of understanding of the psychoneuroses on this basis especially if he does not keep in close contact with the state hospitals. The educational programs and the community clinic programs now being organized by state hospitals should be thoroughly taken advantage of by the general practitioner. Likewise, in Nebraska you should take more advantage of the splendid facilities offered by the University of Nebraska medical school and hospital for clinics and demonstrations.

SUMMARY

The psychoneuroses constitute the most frequent mental states encountered by the general practitioner. The sum total of the economic and social liabilities produced by the psychoneuroses would probably be greater than the amount of damage inflicted on society by the psychoses. It is to be expected that successful treatment and prevention will depend on early recognition by the general practitioners. Greater emphasis should be placed in the curriculae of our medical schools on these problems and the principles of psychotherapy.

PERSONAL EXPERIENCES WITH PYELOGRAPHY*

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It is not the scope of this paper to go into all the details of urological diagnosis by means of the pyelogram, but to bring out the importance, accuracy and exactness of such a procedure in the diagnosis of lesions of the kidney and ureter.

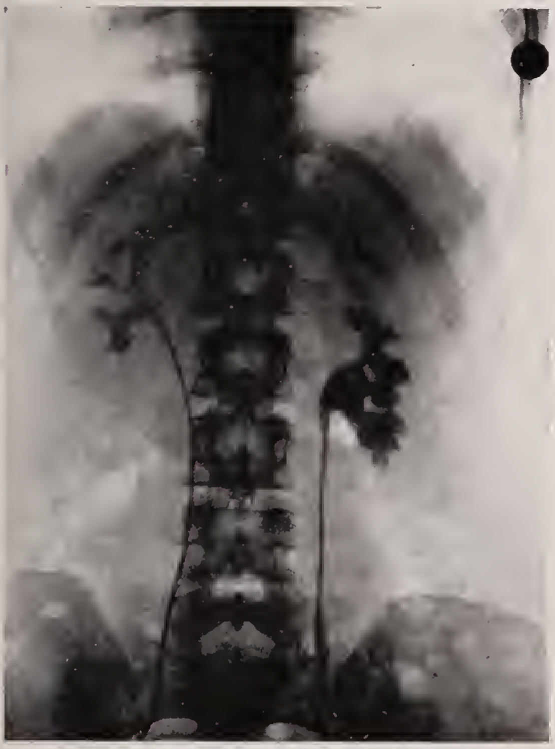

Fig. 1. Bilateral pyelogram normal kidneys showing detail of minor and major clyces.

The writer has felt that this, as well as other diagnostic technical procedures, are brought out only at meetings of the specialties, and as a consequence the value of this procedure is not brought before, and impressed upon, the man who does general work. For this reason, I wish to bring out in a general way with slides and discussion, the importance of the pyelogram and ureterogram in diagnosis of lesions of the upper urinary tract.

HISTORY

The earliest work of this kind was probably done by Tuffier in 1897, who suggested the use of opaque ureteral catheter combined with radiography. Schmidt and Kolischer in 1901 used wire inserted in ureteral catheter to show course of ureter and location of kidney. In 1905, Fenwick suggested use of bougie impregnated with metal. These attempts to visualize the course of ureter and locate position of kidney were forerunners of the use of solutions.

Klose, in 1904, used first liquid media, deriving his idea from use of bismuth to outline alimentary tract. He advised the injection of emulsion of bismuth into ureter and pelvis of kidney.

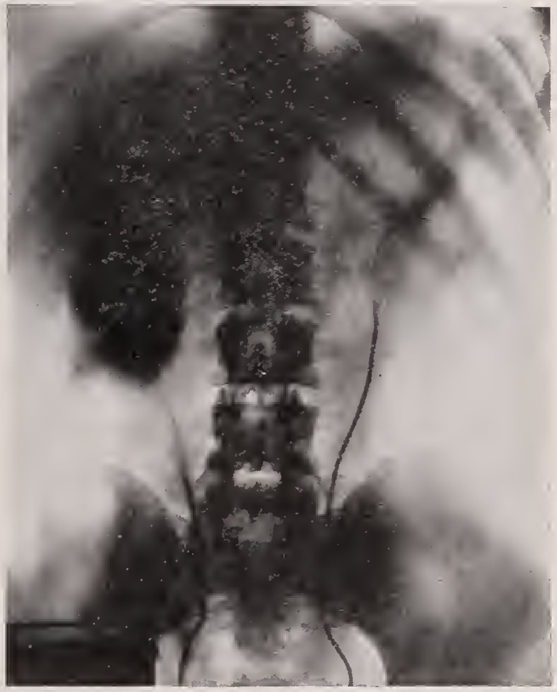

Fig. 2. Pyelogram illustrating large dilated sac of extensive hydronephrosis.

The resulting shadow was uncertain, and he also got into difficulty because of particles of bismuth adhering to the structures following injection.

By accident, Voeliker and Von Lichtenberg in 1906 first demonstrated the successful outline of ureter and kidney pelvis in roentgenogram. In their attempt to outline the bladder, they found that the colloidal silver solution had entered the ureter and extended up to the kidney, entering the renal pelvis. Encouraged by this, they made direct injections of 2 to 5% solutions through ureteral catheter, and reported successful series of pyelograms. The value of the procedure, however, was accepted very slowly and received very little attention until 3 or 4 years later.

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*Read before annual meeting, Nebraska State Medical Association, Omaha, May 12-14, 1931.

Along about this time various solutions were suggested as possible media for injection of the renal pelvis and ureter. Keyes recommended 40 to 50% solution of argyrol in 1909. Silver oxide and other colloidal silver solutions were suggested by others. Gas was suggested as possible media of visualization but failed by reason of the fact that outline was uncertain, would be confused with gas shadows in the bowel, and there was difficulty in maintaining it in the ureter and renal pelvis in sufficient quantity to give satisfactory radiographic outline.

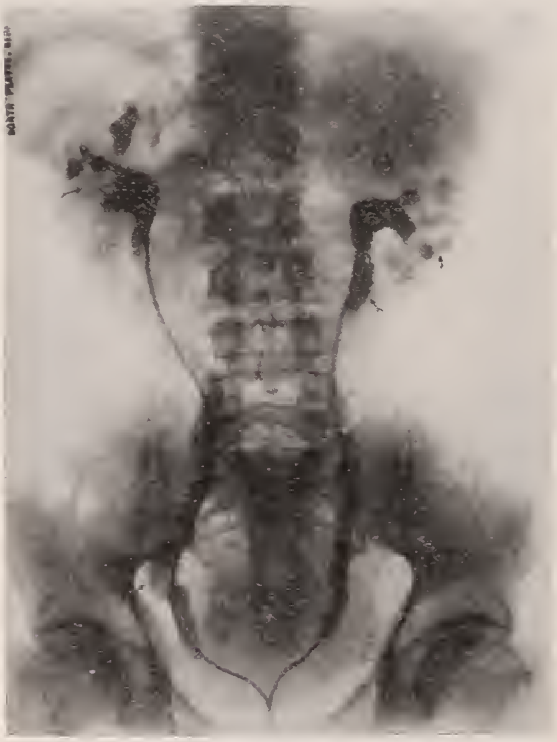


Fig. 3. Pyelogram of rather extensive bilateral pyonephrosis—note dilated ureters.

The practical value of pyelography up to this time had little emphasis. Braasch of Mayo Clinic, in series of articles, however, pointed out the value in diagnosis of such conditions as hydronephrosis, pyelitis, pyonephrosis, renal tuberculosis, renal tumor, and localization of renal shadows. This stimulated the more general acceptance and adoption of pyelography in our diagnostic armenitarium.

With the more universal adoption of pyelography also came accidents and even deaths following its use. This brought about attacks and criticisms of its use and also search for less toxic media to replace colloidal silver. Burns, in 1915, announced the use of neutral solution of thorium nitrate and sodium citrate. Its relative lack of toxicity and greater density to x-rays made it more satisfactory media. However, with experience it became apparent that it also was not free from danger and limitations. In 1918, Cameron proposed the use of 25% solutions of sodium iodide. Sodium bromide was used by others about the same time. It was found that sodium iodide was non-toxic, even when introduced directly into the circulation, and sufficient molecular weight to give good roentgenographic shadows. This led to its widespread adoption and is the choice of solution even today. However, it has been found that 12% gives equally as good contrast shadows as 25% and is practically isotonic with concentrated urine.

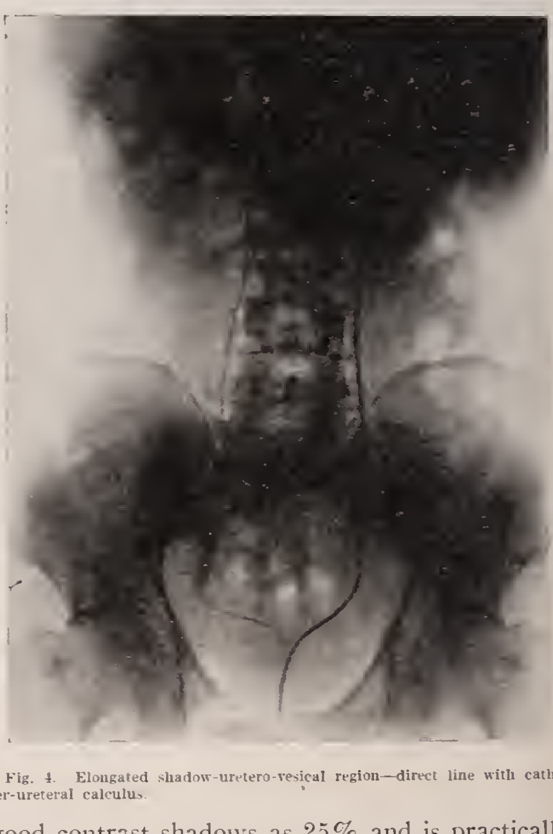


Fig. 4. Elongated shadow-uretero-vesical region—direct line with catheter-ureteral calculus.

Interest in intravenous pyelography was stimulated through the success of gallbladder visualization, and was also discovered in an accidental way. A few years prior to 1928, Professor Binz and Dr. Rath were working with a compound of iodine, which was known as "selection neutral." They were using this synthetic substance against coccus infections on the medical service of Professor Lichtwitz at the Stadtisches Krankenhaus, Hamburg-Altona. Very large portion of it was discovered in the urine, and experiments on rabbits demonstrated the fact that kidney parenchyma and urinary bladder could be visualized after the administration of the drug. However, the drug fell short of expectations due to its toxity and lack of iodine concentration.

Roseno developed a substance called Pyelognost, a combination of iodine and urea which overcame many defects of the early drug. Swick, working in Lickwitz's clinic on another iodine compound, found that substituting the sodium glycine for the methyl radical reduced the toxicity of the early selectan neutral preparation. This compound was given the name of uroselectan, and fulfilled to a considerable degree the qualifications necessary for intravenous pyelography.

ACCIDENTS AND CONTRA-INDICATIONS

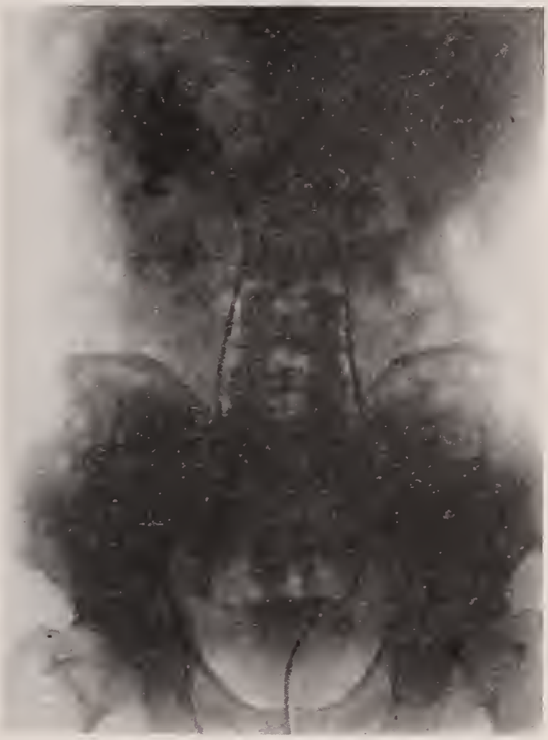
During the pioneering days of pyelography, there were frequent accidents and even some deaths. Numerous observers reported infarcts and deposits of colloidal silver in kidneys removed subsequent to injection. Without doubt, many of the accidents of early pyelography were due to technical error in over distention with hand syringe, which was later borne out by experimental work done on rabbits.

With the use of sodium iodide and care and experience in technique, there is very little danger of over distention on the part of the operator.

Contra-indications are few. Acute infection, marked renal insufficiency are the main ones. Hypersensitive or feeble individuals who might not react well to cystoscopy would be included in this class. Perhaps here is a useful field for the new intravenous method of visualization of the upper urinary tract.

TECHNIQUE OF INJECTION

Direct injection of the renal pelvis of necessity must be carried out by one skilled in cystoscopy and ureteral catheterization. This, incidentally, is one of the chief advantages of the intravenous contrast agent in that it can be carried out by anyone capable of giving intravenous injection and having radiographic facilities at hand. Sterile sodium iodide solution, 12½% is the universal choice of media at the present time and can be given by two methods—by gravity or hand syringe. It is good precaution not to use too large ureteral catheter in order that the solution under pressure might reflux back the ureter outside the catheter, thus becoming a sort of safety device, as it were. In the gravity method, a graduated burette is connected with the catheter and elevated about 1 or 2 feet above the body of the patient. 4 or 5 cc. are allowed to flow in; the solution is then permitted to flow more slowly and picture taken while solution is entering. The average capacity of renal pelvis is approximately 4 to 8 cc. Cases requiring any great excess of this amount should excite suspicion of pathology.



No. 5. Same as No. 4—pyelogram and ureterogram—shadow included in ureterogram—note dilated ureter at ureter-vesical juncture-ureteral calculus.

In using the hand syringe, more care and experience is required, but better outline of renal pelvis is obtained by more uniform distension. 4 or 5 cc. are slowly injected and patient warned to indicate when the very first discomfort is noted in the side injected. This is the signal to cease injecting. If the precaution is diligently observed, there will be no danger of over distention. Occasionally pain is noted after only 1 or 2 cc. of the iodide solution have been injected, which indicates either very small renal pelvis, or that the tip of catheter has entered one of major calyces. To outline the ureter, the catheter is slowly withdrawn and 2 or 3 cc. more injected during the withdrawal.

Uroselectan is given intravenously, preferably using salvarsan outfit—30 grams of powder dissolved in 110 cc. double distilled water, while constantly stirring. The solution is filtered twice.

boiled 15 minutes, which makes the volume about 100 cc. The warm solution is given slowly, requiring about 15 minutes for injection. Radiographs are taken, 15 minutes, 30 minutes, and 1¼ hours after injection, or at longer intervals, according to rate it is eliminated through the kidney.

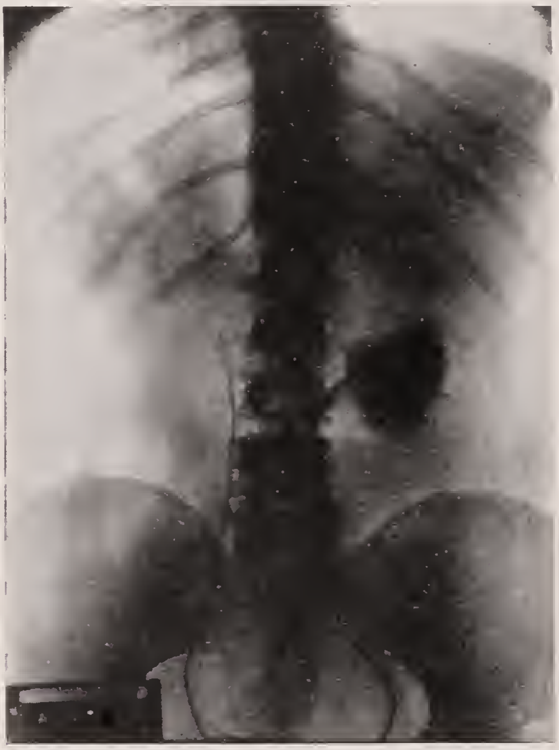


Fig. 6. Tumor mass upper left abdomen. Pyelogram proves mass to be tumor kidney. P. s. p. function test 0 from affected side.

The bucky table was used for taking x-rays. The setting consisted of distance 25 in., 2½ seconds, 100 milliamperes, 4½ in. gap, varied, of course, some, according to weight of patient.

SLIDES TO ILLUSTRATE FOLLOWING CONDITIONS

1. Normal pelvis.
2. Dilatation and obstruction.
3. Dilatation of Pelvis and Ureter from Inflammation:
   a. Tuberculosis.
   b. Pyogenic.
4. Stone:
   a. Ureteral.
   b. Renal.
5. Tumors.
6. Ureselctan.

DISCUSSION

A. D. MUNGER, M. D. (Lincoln): I want to commend Dr. Heider upon his presentation. I think we can do no better than to encourage such work as he has presented.

I desire to speak briefly of some of my experiences in this diagnosis of urinary-tract conditions. Dr. Heider spoke of using uroselectan. Dr. Simpson perfected our present technique and presented us with the iodid combination which lent itself beautifully in a large number of instances as an adjunct in urologic diagnosis. There were not a few accidents with uroselectan.

Because of the relative hazard which existed, it became necessary to use a more refined diagnostic agent. As a consequence, skiodan has been presented to us. It is chemically the same thing as uroselectan, only it is less toxic and is used in one-half concentration. Where we use uroselectan at 40 gms in 100 cc we can now use skiodan at 40 grams in 55 cc of already prepared stable solution. Skiodan can be given more rapidly and with more impunity. I feel in this field of adjunct diagnosis, uroselectan is really not a safe diagnostic agent to use.

I speak advisedly, because in my experience with uroselectan, it was not infrequent to have a thrombosis of the vein through which you injected it. It has placed an unnecessary hazard on the use of this drug. With skiodan, and a more refined intravenous technique, we need have no concern about thrombosis. Skiodan can be given rapidly, which is an advantage over uroselectan, which had to be given slowly. It was rapidly dissipated, and our pictures were not entirely satisfactory. With skiodan, you can get your pictures more rapidly following the injection, with greater distinctness, and with less hazard to the patient.

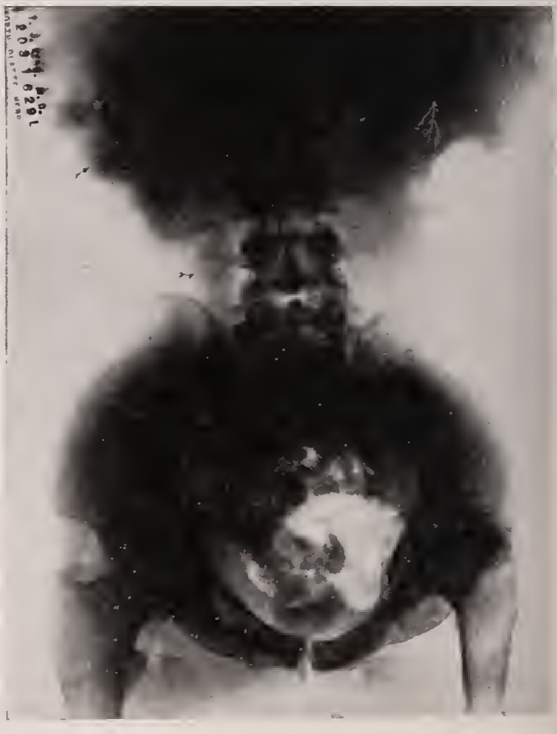


Fig. 7. Case extensive T. B. pyonephrosis in which uroselectan was used. Note cortical destruction kidney and dilatation of ureter. No dye appeared on opposite side—presumably auto-nephrectomy had taken place.

Especially is skiodan of value in urologic diagnoses in children. We usually have a certain reluctance and resort to it as a last procedure when the pediatrician says he wants a youngster to have a urologic diagnosis. At the present time, we have no compunction about attempting it in infants and children, with skiodan. In most instances, the results from a diagnostic standpoint are satisfactory. We must not forget, in using an intravenous agent such as this, there must not be contraindications for its use.

OTIS MARTIN, M. D. (Omaha): I should like to commend Dr. Heider on his paper and the pictures. The practicability of doing a cystoscopic and pyelogram outside of a hospital comes along the line of this paper, and has been demonstrated to be practical. Patients can be taken into your office and a satisfactory pyelogram produced. Uroselectan does not take the place of a pyelogram by the cystoscope, so far. It is hoped it will. It does not make a complete diagnosis and is of value only in cases that will not permit a complete cystoscopic examination.

DR. HEIDER (closing): I want to thank Dr. Munger and Dr. Martin for discussing this paper.

My own experience has been that it takes almost as much time to get your solutions ready to make an intravenous as to "scope" a patient, and get added information. Another drawback in intravenous injections is the expense of the powder. It is still very expensive. I think there are certain selected cases in which it is best used.

I appreciate Dr. Munger's point in bringing out the fact, uroselectan is still not without danger in intravenous injections, and, therefore, possibly we should be more careful in using it.

JUVENILE ASTHMA*

W. O. COLBURN, M. D., F. A. A. P.,
Lincoln, Nebr.

The real purpose of this paper is not an exhaustive scientific resume of the subject of asthma and its relation to the child, but rather a simple exposition of the modern interpretation of this subject presented to the general physician in a manner that he may readily recognize the disease, and know how it should be treated.

Adhering to the introductory statement of simplicity, "asthma is a recurring dyspnoea, more marked in expiration, associated with wheezing." It is an allergic manifestation in approximately 50% of cases, favoring a higher percentage in the early years of life. By allergy we mean a state of exaggerated susceptibility to various foreign substances or physical agents which are harmless to a greater majority of ordinary individuals. It is this type of asthma that we can scientifically approach and render a service to the patient. The child with this allergic predisposition should be watched for sensitizations, and by early discovery of such much can be done for its future health. It has been said by some eminent authority that three out of every four cases of asthma in childhood can be assured relief. The neglect of this condition in early life results in extensive pulmonary traumata with pathological changes which are unyielding to any known treatment.

Etiologically, we are confronted with many opinions. Hurst would make it simple by saying that an irritable bronchial center is the one thing common to every case of asthma.

Many authorities stress heredity and statistics show such a history. It is an established fact that eczema is a forerunner of asthma in about fifty per cent. A near thirty per cent have had a previous bronchitis. Van Leeuwen states that 20% have passed through a period in which the intestinal wall was certainly more permeable than normal (typhoid, gastric ulcer, etc.).

The nose and throat profession look to the side of focal infection, and find a diseased tonsil. or infected paranasal sinuses entering into the etiology.

Summarizing the etiology, every asthma patient should be subjected to an exhaustive examination, including a carefully taken history, a thorough physical examination of nose, throat and chest, with roentgenological findings and a laboratory analysis. Lastly, and perhaps one of the most important is the skin sensitization tests, comprising proteins of all classes, foods, inhalants, bacteria, and animal eminations, and also a consideration of physical agents now known to enter into the etiology.

METHOD OF SKIN TESTING

I prefer to use the flexor surface of the forearm for cutaneous testing; one can make from twelve to sixteen tests at one sitting and if time is no emergency factor, I continue the tests at intervals in this manner. If the patient has come a long distance and time and expense are pressing factors, I use the back, applying thirty to forty tests at one appointment. The reading of the reactions are important in the small child, as an erythema, in the absence of a wheal, may and usually does mean a positive reaction.

Common reactors in foods are wheat, egg, milk. fish, meat, potato, spinach, etc. In inhalants, feathers, horse, human, cat, dog and rabbit hair, dust, orris root, etc. In pollens, timothy and ragweed principally, but all pollinating trees, grasses and weeds may enter into the investigation.

SYMPTOMATOLOGY

The allergic or protein symptoms are well described in groups by Bray of London, as follows:

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*Read before annual meeting, Nebraska State Medical Association, Omaha, May 12-14, 1931.

(1) Skin—Itching, eczema, urticaria, flexural pruritis and angio neurotic edema.

(2) Upper respiratory disease—Rubbing nose and snuffling are frequent symptoms, stuffiness apart from adenoids, frequent rhinitis and sneezing, especially if in rapid succession are indicative of allergic diathesis.

(3) Lower respiratory tract—Rapid breathing, wheeziness or cough are frequent symptoms.

(4) Alimentary Canal—Food idiosyncrasies. Fish, eggs (upset) abdominal pain, vomiting and diarrhoea. Train or car sickness.

(5) Nervous system—Irritability, restlessness, fretfulness and insomnia, sick headaches, especially in girls nearing puberty. "Frightfully nervy" mother states. Enuresis, disposition, change of personality due to allergy.

(6) Urinary tract—Straining and frequency often noticed and enuresis.

No attempt to classify asthma into types will be considered in this paper, except to state that most cases in the young child are bronchial asthmas. and are either associated with, or simulate upper respiratory infections. Hay fever asthma of the seasonable type is recognized rather frequently by the trained observer. The perennial type of hay fever asthma is similar to the usual asthma. and is differentiated by the reactions of pollens.

TREATMENT

The numerous and varied forms of relief advocated for the cure of this malady only make it apparent that specificity in treatment is far from attainment. A review of a few of the newer methods now in vogue will be attempted.

(1) Elimination of the protein or proteins to which the patient is sensitive.

It is necessary to give explicit directions to the patient. as to avoidance of all contact with these. If a responsive reaction to wheat, then the patient must avoid all wheat containing foods, such as bread, macaroni. thickened soups, gravies, many cereals. pastries and even sausages often contain wheat. If a positive reaction to feathers, they may be found in the bedding, and in house dust. Cattle, hog and horse hair may be present in rugs or mohair upholstering. If a child shows a marked skin reaction to milk, and milk is a chief article of diet for the individual, it may be continued if boiled for a long period (Kerley suggests six hours). We have had good results with boiling for a period of thirty minutes. A non-allergic milk is now obtainable which is cows milk supersterilized and evaporated. Another preparation to replace milk has been made up of soy bean flour with the addition of vegetable fats, and when diluted per directions has the same caloric value as milk. Desensitization can also be accomplished by repeated frequent subcutaneous injections in increasing doses of extracts of the offending protein.

(2) Acid therapy. Beckman believes that asthma is a condition of alkalosis within the body, the patient neutralizes too rapidly or too effectively the acid substances which are constantly being liberated into the blood stream during the course of normal metabolism, the body being essentially an acid producing organism, and this without becoming clinically alkalotic. Beckman continues to support this theory by such facts as follows:

(a) Diabetic and acidotic persons are seldom subject to allergic disease. Joslin reports six cases of asthma in over six thousand diabetics.

(b) Starvation. The central powers in the World war showed a marked decline in allergic disease.

(c) Pregnancy. Allergic symptoms sometimes disappear entirely during gestation, to reappear at the birth of the baby. Alkali reserve is much lowered during pregnancy.

(d) Acute infectious diseases often result in temporary relief of allergic maladies. because of the presence of acidosis.

(e) Sea voyage. Complete relief from pollen allergy, and often relief from other types of allergy, due probably to vomiting and resulting acidosis.

(f) High altitude. Free of pollens, also the blood alkali is lower in high altitudes.

(g) Asthma in young; acidosis common in young.

(h) Gastric acidity and allergy: hypoacidity gives rise to hives and other manifestations of allergy, due to low blood alkali reserve.

Beckman continues with other reasonable argument in support of alkalosis for a cause of asthma.

(3) Specific treatment: If cutaneous tests reveal definite reactions to some protein that is difficult to eliminate, then very dilute extracts may be injected subcutaneously in increasing doses until desensitization takes place. Hay fever and pollen desensitization come under this group.

(4) Non-specific therapy: The use of tuberculin, typhoid vaccine, bacillus coli. aolan, peptone, sulphur and many others have been used and sometimes with excellent results when all other means of therapy have failed.

(5) Associated sinus disease: Many cases of

asthma in the child have been cured by successful treatment of sinusitis, either by medical or surgical measures.

(6) Palliative treatment: This form of treatment becomes necessary upon seeing the patient in an attack, but should never supplant the careful searching out of the offending irritant, or other etiological causes related to asthma.

Two drugs, adrenalin and ephedrin, are rivals for first place in the treatment of the attack in this disease, with probably more supporters of the former.

The use of adrenalin has been made more efficient by the use of small frequent doses as suggested by Duke. It must be given subcutaneously.

Ephedrine has a similar physiological effect to adrenalin, much more prolonged and has the advantage of being effective under oral administration.

Ether, atropin and iodin are favorites and are aften combined into one prescription and seems to have been effectual to a certain degree as a palliative measure.

Opium is rarely needed since the advent of ephedrin, and if used should be the drug of last resort, because of the habit forming tendency. Asthma powders, consisting of potassium nitrate and dried leaves of stramonium are the basic ingredients of many patent preparations and do give temporary relief.

General care of an asthmatic patient during an attack has been stressed by Vanderveer. "The patient should sleep alone in a room from which every article of upholstered furniture has been removed. The mattress should be of cotton or so-called silk floss and should be thoroughly cleaned with a vacuum cleaner each week. There should be no covering on the floor except one or two small rugs which should be cleaned each week. The room should be kept absolutely dust free, and the patient should avoid coming into contact with dust during house cleaning. Several years ago we discovered that many asthmatics give marked reactions to house dust, and we have since found that many cases can be relieved if the dust factor is removed. During an attack it is often advisable to starve the patient for forty-eight hours, giving plenty of water to drink and including free catharsis. Undue exertion and exposure should be avoided and every effort made to ward off even mild attacks, as the more rest the congested mucus membrane gets, the less likely are the more mechanical factors to cause trouble."

CONCLUSIONS

(1) Early treatment of allied asthmatic conditions will result in the relief of 75% of cases of juvenile asthma.

(2) Every case of childhood asthma should be subjected to an exhaustive examination including a carefully taken history, a thorough physical examination of nose, throat, chest, with roentgenological findings, and a laboratory analysis. An allergic investigation, by protein sensitization tion tests should be an important part of the examination.

(3) The treatment may be palliative or specific, and may include surgical interference in some instances.

CASE REPORTS

Case 5231, Harriet B., age 10 years, 11-7-28.

Usual allergic family history. No eczema, but has had urticaria several times. Asthma began 3 years ago, more prevalent in winter until last summer, had it continuously. Tonsillectomy 4 years ago.

Examination: weight 46¾ lbs. (should weigh 59 lbs.). X-ray of chest showed very marked tracheobronchial adenopathy and marked peribronchial thickening. X-ray of nasal accessory sinuses—

Right maxillary sinus 3 plus,
Left maxillary sinus 2 plus,
Right ethmoid sinus 2 plus.

Protein cutaneous tests, showed reactions to peas, carrots, beef, pork, sweet potatoes, squash, egg yolk, celery, spinach, sheep wool, hog hair and chicken feathers.

Treatment: Elimination of sensitive proteins. Medical treatment of sinuses and ultra violet ray exposures.

Twenty-eight days later registered a gain of 42 ozs., no asthma symptoms after the first week of treatment. January 9th the record states 104 ozs gain in 63 days. April 12th the record shows a weight of 63 lbs., a gain of 16¼ lbs. in 5 months.

There has been no recurrence of asthma.

Case 3409, Emerson J., age 5 years, 12-1-29

An asthma history. Mother has asthma, father's father has asthma. No eczema. Past history, 3 attacks of asthma in past month, had frequent colds previously Tonsillectomy 1 year ago.

Present trouble: started with a cold 24 hours ago. Now has a chest full of squeals and a temperature of 100 degrees.

Relieved by one hypodermic injection of adrenalin (7 min.).

One week later he reported at my office for complete examination. Weight 44 lbs. (should weigh 46½ lbs.). X-ray chest—showed extensive fibrosis of both lungs. X-ray sinuses—showed a pansinusitis.

Protein skin tests revealed the following sensitization—slight reaction to potato. Von Pirquet tests to Human and Bovine tuberculin were negative.

Medical treatment—ephedrin and neo silvol to nose. Pertussis vaccine combined was given in four increasing doses.

This patient has had several upper respiratory infections, broncho pneumonia and scarlet fever, with no return of asthmatic symptoms.

DISCUSSIONS

J. HARRY MURPHY, M. D., (Omaha): Dr. Colburn has brought to us an interesting subject, and presented it in such a systematic and profound manner it dovetails in with the afternoon program, and stimulates further discussion.

Juvenile asthma is a mysterious disease, because our present knowledge is so insufficient. Steps taken in its diagnosis and treatment are rather uncertain. There is much to be uncovered.

I think Dr. Colburn has suggested four points. One is protein sensitization. Some are not demonstrably sensitive to proteins. Is there a non-protein-sensitive group, or is it that our tests are insufficient to demonstrate it? Is there some other substance? We do have a protein-sensitive group, and a large number in the non-protein-sensitive group.

Undoubtedly there is such a group. They are found under ten years of age. After ten years, it is usually an acquired sensitization. Hereditary influences will have ceased by that time.

Lastly, we are presented with the question, "Why is a patient subject to asthma when all of us are subjected to the same etiological factors?" Is there a certain equilibrium, and does the patient have asthma as the result of a departure from normal? Are there factors affecting this individual at times?

That evidently is the case. Then our management must take into consideration the general factors of the patient's well-being, or chemistry.

That opens up the question of environment and change of location and climate. A case that may be having difficulty at home may remove a short distance to a hospital, and under the same regime, will be comfortable. The questions that arise are numerous, but we must confine our discussion to the protein-sensitive group. But we can not answer all our questions on asthma by protein sensitization.

ADIN H. WEBB, M. D., (Lincoln): I think, after hearing all these things about allergy this afternoon, we are coming more every day to realize there is a hereditary tendency, and these individuals are physically deficient in some way. This is generally recognized in early childhood; therefore, a great deal of responsibility devolves upon the pediatrician to desensitize some of these cases.

We find with individuals who have reached adult life that it is more difficult to locate the substance or substances to which they are sensitive, and eliminate the foods to which they react than will be found in childhood, when the number of foods are limited. We see individuals with egg or milk sensitiveness who have grown to adult life without having anything done for them. I think they should be desensitized. Their sensitiveness should be reduced, if possible—and it is possible in many cases. If the substance to which they are sensitive is egg, desensitization can be carried out by the use of egg. You can incorporate it in small portions into butter. It can be spread on the bread, and thereby control this condition and greatly decrease the sensitiveness to egg. There is a practical solution for some of these things.

With reference to the whole subject, I do not think it can be summed up better than by saying the individual who has a condition of allergy may be likened to a loaded shotgun. These foods are the trigger. Take the trigger off, and the gun does not go off; but it is still loaded. Unload the gun, and we will have no explosion.

SUBACUTE BACTERIAL ENDOCARDITIS*

J. C. WADDELL, M. D., F. A. C. P.,
Beatrice, Nebraska.

Synonyms: "Endocarditis lenta." "Non-hemolitic streptococcus Endocarditis." "Libman's Disease." "Chronic Bacterial Endocarditis".

We desire to call attention to this disease not because we have any special information to impart, but because of its serious prognosis, its ofttimes insidious onset making the diagnosis obscure and in the hope that greater efforts may be put forth by the medical profession for its prevention and cure. Every physician who has had the care of one of these patients has been disheartened to see of how little avail are all of his efforts.

Incidence of the disease:

According to Dickson the incidence of this disease is probably greater than is usually believed.

Cotton recorded 8% of invalided soldiers with gross valvular heart lesions had subacute bacterial endocarditis and Morawitz that it had been observed more frequently in Germany since the war.

According to Blumer the proportion of males affected as compared to females is as 60 to 40. The first clinical description of the disease was reported by Kirkes in 1852.

Osler described the condition in 1885 and later reported 20 cases.

Libman has reported more than 150 cases and has made a careful study of this condition.

Differential diagnosis:

First, this condition must be sharply differentiated from acute rheumatic endocarditis and acute ulcerative or malignant endocarditis.

Endocarditis which accompanies acute rheumatism comes on more suddenly and with more marked heart symptoms. Rheumatic endocarditis shows bacteria-free, heart vegetations. It is either fatal within a few months or the inflammatory symptoms more promptly subside.

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*Read before annual meeting, Nebraska State Medical Association, Omaha, May 12-14, 1931.

It must be distinguished from ulcerative endocarditis. This form of endocarditis is but a part of an acute pyemia, and the heart lesion is secondary rather than responsible for the systemic condition.

In most cases of ulcerative endocarditis there is a distinct primary focus of acute infection. This may be the fallopian tubes, the bones, prostate or skin or some other part of the body.

The organism here is often the staphylococcus or streptococcus pyogenes, or pneumococcus. The duration of the disease is from a few days to a few weeks and is usually fatal. The lesion in the heart is ulcerative rather than vegetative.

It must be distinguished from endocarditis which occurs as a terminal event in chronic diseases.

Subacute bacterial endocarditis is a disease having the following features which serve to distinguish it from the other types of endocarditis:

1. The onset is insidious.
2. The general symptoms include gradual loss of strength and tone, a sallow complexion, with anemia, moderate loss of weight and low degree or moderate fever.
3. Wide spread arterial emboli take place.
4. Blood cultures, if sufficiently examined, may show strepeococcus viridans, this being the specific organism in at least 90% to 95% of the cases.
5. The course of the disease is slow but progressive, (the streptococcus viridans being an organism of low pathogenicity). Once established, although remissions may recur, it has been almost invariably fatal.
6. The total duration of the illness is from 3 months to 2½ years, with an average duration of 6 months.
7. Death occurs from toxemia, heart failure, uremia or cerebral or coronary emboli.
8. The post mortem findings include a vegetative endocarditis on the valves or wall of a heart, with little or no ulceration. There is wide spread embolic infarction without suppuration. As a result of the embolic process there is often found a form of glomerular nephritis.

In about half of the cases there is a history of a previous rheumatic infection, but between the occurrence of the rheumatism and the endocardial infection there has usually been a period of good health of several years duration.

In a majority of the cases the endocardium has suffered previous damage. Diseased valve cusps make excellent sites upon which the infection may lodge.

Malaise, slight anemia, some loss of weight, irregular low grade fever, sweats, erratic pains in the limbs, back, joints, fingers or toes with areas of redness or tenderness developing in the hands or feet in any patient in whom a critical examination fails to find other distinct cause should arouse suspicion. Early in the condition the heart signs may be so faint as to escape recognition. If the vegetation is on the wall of the auricle, no murmur may be present.

In some, embolic events may first draw attention to the serious nature of the trouble, such as sudden pain in the left flank, followed by the discovery of an enlarged and tender spleen, pain in the arm with temporary obliteration of the pulse on that side, blood in the urine, or defective vision due to retinal embolism.

Unexplained fever is the most common initial symptoms. In many cases it is the cultivation of the organism from the blood of the patient with the suspicious symptoms that make the diagnosis definite and positive.

Turning from symptoms we shall more briefly discuss the important signs.

1. Multiple arterial embolism. This may occur in the skin causing petechia, of which there may be only one or two about the face or neck or on the hands and feet, or they may be numerous. These small areas are painful. Small emboli may locate in or about the joints of the hands or feet causing affections which differ from rheumatic arthritis by the lack of symmetry of the swellings and the lesser tendency to synovial effusions.

These emboli occur frequently in the glomeruli of the kidneys, causing infarction which manifests itself by pain, hematuria and albumimuria, or there may be only a few red blood cells in the urine.

This condition, if extensive, may produce the symptoms of a glomerular nephritis and may be the cause of death. These emboli may occur in the retina, brain or in arterial walls causing an anurisms.

2. The heart. The heart may present definite signs of endocarditis if the vegetations are on the valves, or little or no signs if the vegetations are on the walls of the auricle. The valves most often affected are the mitral and the aortic. It is largely a left heart affection.

3. Blood culture very often show streptococcus viridans. If the blood is bacteria free, but the symptoms and signs definite in a case extending over several months of time at least a tentative diagnosis of subacute bacterial endocarditis should be made.

4. Fever is the symptom together with chilliness and gradually increasing weakness that brings the patient to the physician. The temper-

ature curve is irregular and remittant. Afebrile conditions lasting several days are not infrequent. This type of endocarditis occurs as the result of a blood infection by the streptococcus viridans.

As this organism is the most common bacteria found in the mouth in connection with pyorrhea and diseased teeth and tonsils and is of low toxicity these foci may be the primary source in this type of endocarditis.

The metastases do not suppurate and the duration is subacute or chronic. The blood, under normal conditions, is bactericidal to this organism which probably accounts for these cases not being more numerous.

The sequence of events is about as follows—the organisms get into the blood stream and lodge on the aortic or mitral valve; here they form grayish masses which are composed of blood fibrin red and white cells, or blood platelets and some epithelial cells. These organisms multiply in the interior of these vegetation masses and small particles of these masses break off into the blood stream, giving rise to the emboli which occur so frequently in the disease.

There is a persistent and monotonous fever for months and there often comes to be a peculiar muddy green complexion with some clubbing of fingers.

The spleen is usually palpable.

The emboli lodge in the glomeruli of the kidney, producing infarction and glomerular nephritis.

Now, as to the prognosis. This has been extremely bad.

Osler, in 1909, reported 10 cases with 10 deaths.
Lenhartz, 1904, reported 16 cases with 16 deaths.
Billings, 1909, reported 15 cases with 13 deaths (1 recovery).
Harder, 1920, reported 150 cases with 149 deaths (1 recovery).
Libman, 1912-1920, reported 150 cases with 146 deaths (4 recoveries).

Patients have lived as long as 2½ years and have had intervals in which they were apparently well.

In one of the writer's group of six cases, the patient, a girl of twelve years, apparently entirely recovered. She gained in weight and the blood picture approached the normal. She felt well and returned to school. She had lived 2½ years. We reported this case at a district medical meeting as probably cured and attributed our result to the use of sodium cacodylate as suggested by Dr. Joseph Capps of Chicago. About two months after our report the patient again showed symptoms of the disease and died from cerebral embolism. This was several years ago and just recently we saw the father of this patient with the same disease. He has been sick for six months. He has now been temperature free for about 3 weeks and is making marked improvement, however, because of the history of these cases and our personal experience, we shall withhold our opinion as to the probable outcome.

The patient suffering from subacute bacterial endocarditis often looks well in contrast with the rheumatic patient, as there is usually less involvement of the myocardium and less often is decompensation present.

Hematuria at some time during the disease is usual in subacute bacterial endocarditis and is rare in rheumatic fever.

Focal nephritis which occurs so frequently in this disease adds to the seriousness of the prognosis. This nephritis is due to the showers of infective emboli which break off of the vegetations on the heart valves or heart wall. This gives rise to what is known as the "flea bitten" kidney.

In 1913 Libman reviewed some of the clinical features of subacute bacterial endocarditis and stated that the cause of death could be definitely stated in 16 fatal cases. Cerebral embolism was determining factor in 4 cases, uremia in 5 cases, anemia in 4 cases, and cardiac insufficiency (unaccompanied by profound anemia) in 3 cases.

The important role played by the progressive anemia, the nephritic changes, the presence of vegetation on the valves, and the improper functioning of the valves and musculature of the heart is thus made very clear.

TREATMENT

There is no specific treatment. In fact, all treatment seems to accomplish little.

A few years ago Capps suggested daily injections of sodium cacodylate. We wrote him recently and received the following reply:

"In all, I have had about 100 cases under my care and, of course, most of them have died. There is a certain group of cases, however, usually those running a mild temperature of 100 or 100.5, that have been arrested. Some of these cases go along for years. At present I have something like fifteen such cases living although, of course, some of them will fall by the wayside. Many, however, seem to get over the trouble.

"There are very few of the fulminating cases with high temperature that survive. I look upon prolonged rest as being quite as important as the arsenic in the treatment."

It has seemed to the writer that rest and a nutritious, easily digested diet seemed to be most helpful in his cases.

We have hopes that in the future there may be developed a serum or vaccine that may render the individual immune to this type of streptococcus or may be curative of the disease.

DISCUSSION

FLOYD S. CLARKE, M. D. (Omaha): I have been very much interested in this paper. I cannot hope to enlarge upon what Dr. Waddell has said. All I can hope to do is to emphasize some of the outstanding points.

It has been my sad experience to have had two cases of this in children. It is pitiful to have to take care of them. In the few cases I have had, previous damage to the heart has always been present. Subacute bacterial endocarditis has been added to an old endocarditis which the youngsters had previously. These cases in my experience have a rapid heart. The other important thing has been a fever of unexplained origin. It is not necessarily prolonged.

In my experience, blood cultures have not helped me. Possibly in our hospitals we are not incubating the cultures long enough. I have been informed that some technicians are incubating cultures a week or ten days and positive growths obtained.

In the line of prevention, the important thing is taking care of these children with upper respiratory tract infections. Perhaps we let them up too soon. The importance of rest in these infections can hardly be overemphasized. In spite of whatever condition may be in the heart or urine or blood, I think the one thing is to keep them in bed a little longer than we otherwise would.

Regarding sodium cacodylate, I think Dr. LeRoy Crummer originated its use. I have had some experience with it both in bacterial endocarditis and in pericardial effusion. So far as my personal observation goes it is without benefit in either of these affections. Possibly injections of acriflavine might be of benefit. We have had some experience with this in a series of upper respiratory infections, with high temperatures, where we were at a loss to account for whatever bacteria was causing the infection, with some degree of success. We might "play poker" with that. I think at times we should take a chance on some of these cases.

Another thing which has occurred to me is the removal of tonsils and adenoids, even at the height of the fever—not always, of course. I have felt they may have some etiological relationship to the fever, and I think we should take a chance on those cases.

LUCIEN STARK, M. D. (Norfolk): Dr. Clarke spoke about blood cultures in these cases. The proper method, I believe, to make them is to make one every day for eight or nine days. Your infection breaks loose in showers. It is the type that causes nephritis, where you have a destruction of a few glomeruli now, and more in a week. When this patient dies, you open him and find a kidney that has a mass of scar tissue here and there. This type of organism is a slow grower. There are times your infection breaks loose and goes into your blood stream and destroys your glomeruli. Somebody reports that as a nephritis which has recovered. Then you have another attack. That is one of the reasons why so many of these people pass out with uremia.

CHYLOUS CYSTS OF THE MESENTERY

Report of a Case.

J. E. SUMMERS, M. D.,
Omaha, Nebr.

A widow woman, 55 years of age, healthy appearing, mother of 7 children—5 living, entered the Clarkson Hospital Jan. 12, 1931, complaining of discomfort in the abdomen probably caused by the presence of a grapefruit-sized tumor of the upper left abdomen extending under the ribs. The growth, gradually increasing, had been noticed for about one year. It was slightly movable, somewhat tender. There was moderate pain radiating into the pelvis and down the left leg.

The abdomen was soft, the tumor was semi-elastic, illy defined, and could not be identified in its relationship to any viscus. The pancreas, spleen and kidney were considered. There was nothing in the woman's history, general examination or laboratory finding worthy of interest. X-ray was negative except for the fact that the stomach was radiographically deformed by pressure of an extra gastric tumor. Examination of the urinary tract after intravenous injection of uroselectan, showed a normal left kidney.

Operation, ether anesthesia. Left rectus, supra-umbilical incision.

After lifting upwards the omentum and transverse colon, a multilocular, yellowish white colored, thin-walled, tense cyst of the mesentery of the jejunum was with some difficulty delivered. The tumor commencing about 8 centimeters from the ligament of Tritz, extended downward for 15 cm. and occupied the whole intervening mesentery to its periphery, along which in direct approximation coursed the jejunum. It was a question how to remove the cyst. All of the cases of cysts of the mesentery of whose history I was familiar in which the intestine held such intimate relationship to the cyst, had apparently required a resection of the related intestinal coil and the involved mesentery, the mortality of this technique is high. On the other hand the enucleation of the cyst hazards the blood supply of the intestine. I was able, however, to remove the cyst. Some of the divisions ruptured under the tension of removal and spurted the rather thick, creamy contents onto the field of operation.

After removal the mesentery was rather ragged and stringy appearing, and for a space of 4 cm. there was no mesenteric attachment to the intestine. I gathered together, somewhat like the pleats of an accordion, the damaged mesentery, supporting this and the intestine by a part of the omentum. The patient made an uninterrupted recovery.

Elsewhere(1) I have described a technique whereby, in somewhat similar circumstances, a small area of gut deprived of its mesentery may be crushed by an angiotribe and this devitalized area invaginated as an intussusceptum to be sloughed off into the intussuscipiens or distal part of the intestine. This technique admits of a practical resection of the intestine without the danger of infection, always present when the gut is opened. Limited areas of gangrene of the intestine may be successfully invaginated in the same manner(2). A case in point, a woman 49 years old, is in the Clarkson hospital at present, sent to me by Dr. G. W. Sullivan of St. Edwards, Nebraska. An acute obstruction of the bowels, lower ileum, by a tight band. There was a complete gangrenous ring under the constricting band. Textbook surgery in such instances demands a resection. In this instance I employed my technique(2) of burying the gangrenous ring by means of an intussusception, the gangrenous area forming the intussusceptum. The woman is making a normal convalescence.

Pathological report: Specimen consists of a lobulated cystic mass containing a milky fluid, also some glistening white clots. It is multilocular except at areas of attachment, which are made up of a fatty, somewhat friable tissue. The linings of the cavities are smooth, with occasional small white papillae. In addition to the above mass, which weighs about 100 grams, there is a small piece weighing 15-20 grams which is fairly firm, and also a piece of membrane, apparently a ruptured cyst belonging to the above mass. The fluid stained with Sudan III and acetic acid, results in the formation of large globules of fat. The piece weighing 15-20 grams on sections is a lipoma.

Microscopic: Section consists of fatty tissue with occasional areas or round cell infiltration. There is no epithelium. There is some infiltration with fibrous tissue. Diagnosis: Chylangioma. L. Dunn, M. D., Pathologist.

Dr. Adolph Rasch(3), in writing on "A Case of Large Chylous Cyst of the Mesentery," in 1889, furnished the first history of a chylous cyst ever published up to that time found in a woman. His diagnosis of par-ovarian cyst proved to be wrong. There was no epithelial lining in the cyst. The woman made an uneventful recovery. He notes that Winiwater recorded a case of chyle cyst in the mesenterium of an infant. The question brought out in Rasch's paper was, "How does such a cyst originate?" The case reported by him speaks against the theory of obstruction of the thoracic duct, a not uncommon belief. He also points out the difficulty of diagnosis, not only in his own case but in two of mesenteric cysts (not chylous) published by Sir Spencer Wells, and another reported by Prof. Von Bergmann(4), one of a chylous cyst of the mesentery in a man 33 years of age. The cyst fluctuated and was freely movable from side to side. This seems to be the first case ever to be published.

In 1897 several articles were written on mesenteric cysts. Mendes de Leon(5) writes, "These cysts belong to the order of swellings, the appearance of which in the abdominal cavity is of the very rarest occurrence." He says only two cases have here-to-fore been recorded, the first a woman 61 years of age reported by Kilian, the second, that of a man as published by Bramann (again Bergmann's case)—he evidently has overlooked Rasch's case. Mendes de Leon, in a case of his own, found the difficulty of diagnosis as Rasch did, and in concluding emphasized the fact that the great mobility of the cyst is very important in making the diagnosis, especially in women, because they are subject to various tumors showing mobility. Usually no diagnosis is made until after the abdomen has been opened. The impossibility of extirpating these cysts is due to the fact that gangrene of a great portion of the bowel would be inevitable because the principal part of the cyst occupies the place of the mesentery with its numerous blood vessels. The puncture of a cyst is not sufficient according to Kilian's experience. In his case the cyst refilled twice.

Mendes de Leon further says that the origin of a chylous cyst was first suggested as being caused by stenosis of the thoracic duct, but his patient, a woman 27 years of age, was in good health up until a short time before operation. At operation there was no communication found between the chyle vessel and the cyst, neither was there an escape of chyle observed after the operation. Thus he sums his statements up by saying the etiology of chylous cysts is obscure.

Berkely G. A. Moynihan(6), in 1897, now Lord Moynihan, writing on "Mesenteric Cysts," said "Cysts of the mesentery are among the surgical rarities." Victor Augagneur and Jules Braquehaye, up to this time, he calls the most noted writers regarding cysts. He gives the three periods in the history of mesenteric diseases, as divided by Braquehaye. The first from 1507, when a case was recorded by Benevieni, up to 1850 including observations by Tulpius, Morgagni, and others—all a record of cases taken after post mortem examinations. The second, from 1850 to 1880, in which operation took place with some success after a mistaken diagnosis. The last or third period was from 1880 onward. Cases recorded chiefly by French surgeons, such as Pean, Millard, Tillaux, and Merklen. Better diagnosis was made and surgical interference was based upon such diagnosis, with increasing measures of success.

He believes chylous cysts either unilocular or multilocular, and gives two cases of unilocular that were under his care. One a woman 18 years of age. who recovered. The other a boy of 7 who died. He also mentioned Dr. Rasch's case.

Two cases of mesenteric cysts were reported by Dr. Frederick Eve(7) in his paper "On Mesenteric Cysts," in 1897. One in a baby boy 11 weeks old, the cyst was found between layers of mesentery of the jejunum. The other was a boy three years and eight months old, the cyst was situated 7 feet from the ileo-caecal valve. Both children died. He also mentions the fact that diagnosis is very difficult and that obstruction may be the cause of chylous cysts.

"Mesenteric Cysts," a paper written by Charles N. Dowd(8), in 1899, gives a very detailed description of the different classifications of mesenteric cysts. In telling of chylous cysts he says, "Chylous cysts have been described in large numbers. They are more common than any other variety of mesenteric cysts. The fluid has been described as milk-like, or chylous." He gives reference to 145 cases and cites one reported by Carson in which the fluid was cream-white, and the walls firm and fibrous. He further states that chylous cysts of the mesentery having the appearance and structure of ovarian and parovarian cysts, and having in their wall lymph vessels "suggest embryonic cysts into which there has been an effusion of chyle."

John Fawcett(9), in 1902, reporting a unilocular chyle cyst of the mesentery in a baby girl three months old, who did not recover, thinks they arise from embryonic remains, as suggested by Dowd. He mentions Eve and Moynihan, and notes the case of a child reported by E. C. Stabb, also another of a boy 6 years of age.

In 1906, Miles F. Porter(10), writing a very complete paper on "Chylous Cysts of the Mesentery," says. "Literature on the subject so far as textbooks are concerned is very meager." He cites Treves' "System of Surgery" and the "International Textbook of Surgery," as the only ones referring to the subject. He had collected 19 cases (11 collected by Carson) besides the one case that occurred in his practice, of a man 22 years of age, who did not recover. He also mentions the works of Mendes de Leon, Moynihan and Dowd. Chylous cysts of the mesentery are very rare cysts according to him, and as the others, concludes that exact diagnosis is practically impossible, also that their origin is still a question, although in some instances trauma has been a causative factor. In 15 collected cases the average age was over 34 years, some were under 10 years of age.

In his summary he came to the following conclusions:

20 cases reported.
3 deaths in operated cases.
8 cases treated by excision or enucleation, 6 recovered.
5 cases, stitching sac to abdomen and draining, all recovered.
1 case treated by excision of cyst, mesentery and bowel. Died.

"Only 6 cases were found reported post mortem, which would seem to prove that when present chylous cysts of the mesentery, usually manifest themselves by symtoms sufficiently pronounced to lead the sufferer to consult a physician."

In his book on "Tumors" published in 1922, Sir John Bland-Sutton mentions "A rare but interesting lesion known as chyle cyst of the mesentery." He, as Rasch, Bramann, Mendes de Leon and Fetherston(11), compares them to omental hydroceles, and ovarian cysts. In infants or children where many of them are found, the cysts are connected closely to the mesenteric border of the intestine and push their way between the layers of the mesentery. He mentions Eve. Fawcett and Dowd, and concludes that "these cysts are important, for they have caused fatal intestinal obstruction."

CONCLUSIONS

The diagnosis of chylous mesenteric cysts cannot be differentiated from other mesenteric cysts. All mesenteric tumors have one characteristic in common, a slight mobility, otherwise there are no definite characteristics by which a mesenteric cyst can be recognized. I have discussed the differential diagnosis between abdominal cysts, intraperitoneal and retroperitoneal, in a former paper published in this Journal, reporting two personal cases(12).

Of solid tumors, the story is somewhat different. They in their early stages at least, may be highly movable. In a case(13) succesfully operated upon by me, since the subject of this report, the tumor was so movable that it could be pushed into any part of the abdomen, even under the ribs. A correct diagnosis was made. Case to be reported as the second in literature of a solid, pure fibroma of the mesentery found in a young child, in this instance a girl 3 years old.

REFERENCES:

1. Surgery, Gynecology and Obstetrics, 1927, 374-77.
2. Journ. American Med. Assoc., read at Chicago, Ill., June, 1908.
3. Trans. Obstet. Soc., 1889-90, xxxi, 311.
4. Arch. f. klin. Chir., 1887.
5. American Journ. Obstet., 1891, xxiv, 168.
6. Ann. of Surg., 1897, xxvi, 1.
7. Med. Chir. Trans., 1898, lxxxi, 51.
8. Ann. of Surg., 1900, xxxii, 515.
9. Trans. Path. Soc., 1902, liii, 406.
10. Ann. of Surg., 1906, 43, 380-89.
11. Austral. Med. Journ., 1890, xii, 475.
12. Nebraska State Medical Journal, read before the Western Surgical Association, French Lick Springs, Ind., Dec. 5, 1924.
13. Accepted for publication in Surgery, Gynecology and Obstetrics.

USE OF SPINAL ANESTHESIA IN INTESTINAL DISTENSION*

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One of the important effects of spinal anesthesia is the contraction and increased peristalsis produced in the stomach and intestine. Mr. Sandstead and I have performed a few simple demonstrations upon anesthetized rabbits to show how this contraction is brought about. We wish to present this work to you and also present clinical cases to show how this phenomenon may be put to practical use.

Our experiments are based on the known antagonistic relationship between sympathetic and parasympathetic nerves supplying the stomach and intestine. It will be recalled that the parasympathetic nerves reach the stomach and intestine through the vagus nerve and sacral nerves, and that these nerves are concerned with peristalsis of the intestine. The sympathetics, acting in opposition to these nerves, are concerned directly with intestinal stasis. These latter nerves reach the stomach and intestine through the celiac plexus, the superior mesenteric plexus, and the inferior mesenteric plexus.

The exercises we have performed illustrate this antagonistic relationship and demonstrate the effect of spinal anesthesia on these nerves and thereby on the intestine.

A normal rabbit was anesthetized with ether and subjected to a coeliotomy and exposure of the right vagus nerve in the neck. Observation of the intestine at this stage showed low grade peristaltic waves with rhythmic segmentation. Manipulation of the intestine definiely increased the motility. Faradic stimulation of the splanchnic (sympathetic) nerves resulted in an inhibition of motility and expansion of the circumference of the small and large intestine. Next the vagus nerve was stimulated with a faradic current with a resulting increase in peristalsis and segmental narrowing of the lumen of the intestine. Sectioning of the splanchnic nerves at their emergence from the spinal canal also caused an increase in peristalsis and tonus of the intestine.

It will be seen from this experiment that peristalsis and contraction of the intestine are increased by either stimulation of the vagus nerve or the elimination of impulses through the splanchnic (sympathetic) nerves.

A second animal was prepared in the same manner as was the first, and the observation confirmed. Then a rectal tube was inserted, the lower intestine was distended with normal saline solution, and the tube in the rectum was connected with a water manometer. The manometer indicated moderate peristaltic activity in the intestine. Next the sympathetic nerves to the intestine were divided by longitudinal incisions just lateral to the vertebral column on each side extending from the diaphragm to the lower part of the lumbar region. This was immediately followed by vigorous peristalsis and segmental contraction of the intestine, with a marked rise of the fluid in the manometer.

Animal number three was prepared in the same manner as were the others, and the manometer was attached per rectum. Faradic stimulation of the splanchic nerves resulted in inhibition in peristalsis, with a marked drop of fluid in the manometer. Next .075 gm. of neocaine dissolved in 1 cc. of normal saline solution was injected into the lower lumbar spinal canal. This was followed, after a period of 60 seconds, by a definite increase of intestinal motility and also intestinal segmental contraction, with a resulting marked elevation of fluid in the manometer. Cutting the sympathetics produced an even greater increase of motility than that produced by the spinal anesthesia alone. Stimulation of the distal segment of the cut sympathetics definitely inhibited the rate of peristal-

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sis. These observations were confirmed in another animal (No. 4). They show that neocaine used intraspinally produces an effect analogous to that produced by sectioning the sympathetic nerves to the intestine. This effect is an increase in peristalsis and contraction of the intestine due to removal of inhibition through the sympathetics. It is interesting to note that neocaine in the dose used does not completely interrupt impulses through the sympathetics, as shown by the fact that more vigorous peristalsis and increased segmental contraction occurred after sectioning these nerves.

In animal number five the pelvic nerves were exposed and stimulated. This resulted in an increase in peristalsis of the descending colon, sigmoid and rectum. In this experiment we were dealing with the sacral portion of the parasympathetic nerves. Stimulation of these nerves produced the same effect on the descending colon as stimulation of the vagus nerves produced on the small intestine.

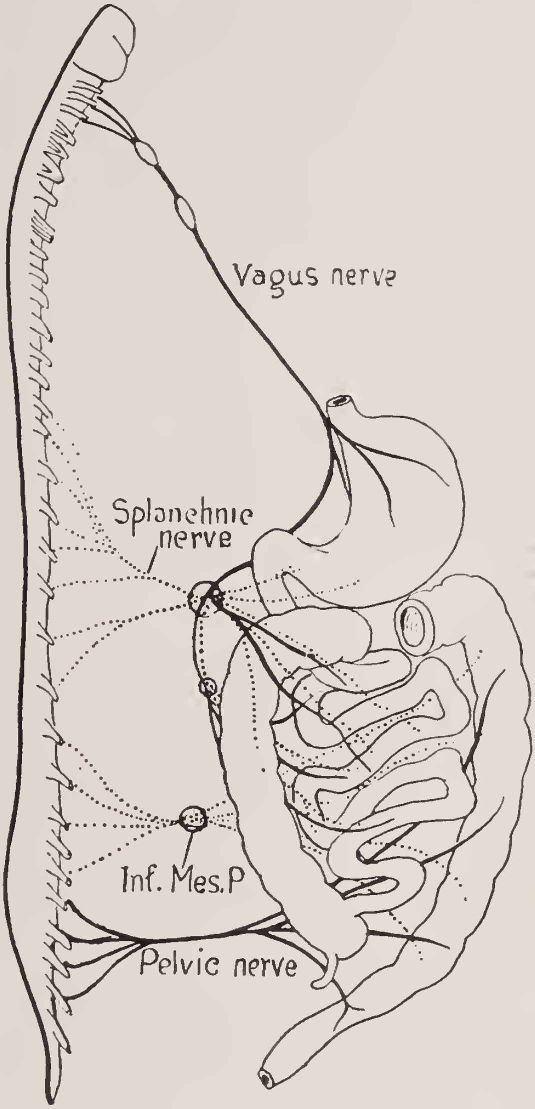
In animal number six .075 gm. neocaine was administered introspinally. This resulted in increased peristalsis of the stomach, small intestine and large intestine. Cutting of the sympathetics lateral to the lumbar vertebrae on each side resulted in a greater increase in peristalsis, as in a previous experiment. Following this both vagus nerves were sectioned in the neck. This resulted in a marked decrease in peristalsis in all the intestine with the exception of the descending colon, sigmoid and rectum. Stimulation of the distal ends of the vagus nerves resulted in an increase in peristalsis, and withdrawal of the current resulted in a decrease in peristalsis. Stimulation of the proximal ends of the vagus nerves resulted in an increase in peristalsis of the descending colon, sigmoid and rectum only.

In all instances of intraspinal anesthesia, the neocaine in solution reached the cervical region as shown by methylene blue staining.

In these exercises we have seen that severing the sympathetic nerves to the intestinal tract leaves a preponderance of vagal effect, as shown by increased intestinal motility. The same effect is produced by spinal anesthesia, but to a less degree. This is of practical importance clinically. as spinal anesthesia in abdominal surgery allows the surgeon to work unhampered by distended coils of intestine.

In the present discussion of the clinical use of spinal anesthesia, attention is concentrated on a particular phase—intestinal distension. We have used this procedure as a therapeutic measure in two types of cases—incarcerated hernia and paralytic ilius in peritonitis.

We are unaware of other reports of the use of spinal anesthesia in reducing incarcerated hernia. It should be ideal for use in those cases in which ordinary means fail to return the bowel to the abdominal cavity and where operation is considered too great a risk.



This illustration is used with the permission of Lea & Febiger, publishers of Dr. Kuntze's work on the Autonomic Nervous System.

A case which describes such a situation is that of a man age 75 who came into the University hospital with an incarcerated right inguinal hernia. Several attempts had been made by his physician to reduce the hernia before entrance to the hospital, and attempts at reduction were made in the hospital through mild manipulation and elevating the foot of the bed. The patient showed a mental haziness which may have been due to or aggravated by a mild degree of obstruction, and he was altogether a very unfavorable risk for operation. The incarceration had been present for thirty-six hours. It was considered inadvisable to operate on him because of his poor condition. Here was an ideal case for use of spinal anesthesia to reduce the hernia, relying upon the ability of spinal anesthesia to anesthetize the intestinal sympathetics and thereby bring about a contraction of the intestine. Accordingly .15 gm. of neocaine in 4 cc. of spinal fluid was administered at the level of the third lumbar interspace. The hernia reduced itself within three minutes following injection, this without external manipulation. No doubt the relaxation of the muscles of the abdominal wall aided in the reduction of the hernia mass. We consider this type of case a definite indication for the use of spinal anesthesia. Of course one must realize the danger of returning a gangrenous or perforated intestine to the abdominal cavity. The procedure is best used very early and where the neck of the sac is quite large. Another point in favor of this method is the fact that should the procedure fail to result in a reduction of the hernia mass, the patient is anesthetized ready for immediate operation.

There are reports in the medical literature on the successful use of spinal anesthesia in cases of general peritonitis with paralytic ilius. Of course, there are some cases of fatal peritonitis in which the invading bacteria are so virulent that the patient is overwhelmed by the toxemia, and relief from distension is of little or no value. But there are other cases of milder infection, usually due to bacillus coli, in which distension may determine a fatal outcome. Distension exerts its harmful effects in two ways, by causing obstruction and allowing absorption of intoxicating products from the upper intestinal tract; and by making pressure on the diaphragm, thus interfering with proper respiration.

A case in which spinal anesthesia proved very satisfactory was that of a man age thirty-two who was treated by one of us (J. W.) together with Dr. Harley Anderson at the Immanuel hospital for relief of general peritonitis probably due to appendicitis, although the cause has not been determined. As nearly as can be judged from the history, operation was performed about forty-eight hours after the onset of peritonitis. Operation under spinal anesthesia consisted of a right pararectus incision in the lower abdomen, at which time there was found a large amount of purulent fluid which showed bacillus coli in smear and culture. There was evidence of general peritonitis with marked distension of the intestine. Immediately after operation consisting of simple drainage of the pelvis with rubber dam there was a marked diminution in distension. Twenty-four hours later the abdomen showed increasing distension and hiccoughing was pronounced. At this time he was vomiting a dark green liquid material. A second spinal anesthesia was given. This was followed by immediate relief from distension. From this time the patient made steady progress toward recovery with additional use of intravenous glucose solution and the Fowler position. It is quite possible that recovery would have taken place without the use of spinal anesthesia. However, relief followed so soon upon the administration of it, and the method of obtaining relief was so simple, that we considered it a most valuable factor in the treatment of this patient.

Another case was recently treated by this method but without success. A patient on whom cholecystectomy and appendectomy was performed, at the University hospital, developed a general peritonitis following operation. He showed a marked distension and a very high temperature ranging from 104 to 107 F. beginning forty-eight hours after operation. Three doses of .15 gm. neocaine were injected intraspinally at intervals of twenty-four hours, each time with relief from distension. However, the patient died on the sixth day. At autopsy he showed a general acute peritonitis, but there was absence of intestinal distension so characteristic of these cases.

From experiments and clinical experience with spinal anesthesia we conclude that it is of practical value in the treatment of distension of the intestine in nonreducible hernia and in ileus due to general peritonitis. We consider that it should be used in intractible cases where it is doubtful that the customary methods of treatment will be successful.

REFERENCES

Kuntz, Albert: Autonomic Nervous System, 1929.
Starling, E. H.: Human Physiology 5th Edition.

DISCUSSION

J. FREDERICK LANGDON, M. D. (Omaha): A few years ago when I was first beginning to use spinal anesthesia I tried it in a case of paralytic ileus. The patient had developed general peritonitis following an intestinal resection. He was greatly distended, rigid, and had a pulse of 150. In fact, he had all the signs of impending death. Spinocain was injected into the spinal canal. There was no quick response, but gradually during the day the distention went down, his bowels moved, and in five hours time he was in good condition. This, the first case I used it in, was the most spectacular result I have had with this form of treatment. Since that time I have had considerable more experience with spinal anesthesia as a therapeutic agent, and have been convinced that it is a valuable aid in the treatment of paralytic ileus. It will not cure them all. In fact, in my practice it has failed more often than otherwise. However, it is a valuable aid. It will accomplish best results when used early before peristalsis has ceased.

At the state meeting last year Dr. B. B. Davis, discussing the question of appendicitis, stated that he never had seen any results from jejunostomy performed on a "still gut". The same holds true with spinal anesthesia. If you wait till peristalsis has ceased the remedy will be of no avail. Use it early and use it in conjunction with other methods. The Levine tube I have found most useful in these cases. It may be passed down through the nose and left in place. The patient is enabled to drink water which adds something to his comfort, and by this means the stomach is kept washed.

I was interested in Dr. Weinberg's case of strangulated hernia reduced by means of spinal anesthesia. I would be very much afraid to use spinal anesthesia as a therepeutic agent in any form of mechanical ileus whether due to strangulated hernia or any other form of mechanical obstruction. The general muscular relaxation that ensues might cause a reduction of the hernia. On the other hand, if reduction did not take place quickly the increased peristalsis most certainly would aggravate the condition and might easily cause a rupture of the intestine. I would in no case use spinal anesthesia to reduce a strangulated hernia unless I was all prepared to operate immediately.

J. W. DUNCAN, M. D. (Omaha): Dr. Weinberg's interesting experiments tend to prove what is a commonly, but not universally accepted belief, that is, that the sympathetic and parasympathetic nerves supplying the gastrointestinal tract are entirely antagonistic. Although it is true that these nerves supplying a given organ usually produces opposite effects, parasympathetic stimulation resulting in contraction of the musculature and sympathetic stimulation in inhibition of movement, a single nerve may contain both excitory and inhibitory fibres.

The myoenteric or intrinsic nerve mechanism of the gut, represented by the plexuses of Auerbach and Meissner, is capable of carrying on indefinitely normal peristalsis, and motility originates in the neuromuscular mechanism of the gut wall itself. Section of the extrinsic nerves does not interrupt gastrointestinal motility or profoundly modify gastrointestinal movement, or if such movement is disturbed for a time, it soon returns to normal. For instance: Section of the sympathetic nerves supplying the large intestine commonly results in a diarrhea which gradually subsides.

No matter how unsettled may be the opinions on the mechanism of normal peristalsis and the factors disturbing it, surgeons who have used spinal anesthesia will agree with Dr. Weinberg's experiments and clinical observation that peristalsis is markedly increased temporarily following the introduction of novocain into the dural sac.

In several hundred abdominal operations under spinal anesthesia I have never failed to observe, if I looked for it, very active small gut vermicular movement, active and rapid enough at times to slip the gut from one's finger or gently tug on a gut forcep. This peristalsis is violent enough to have warranted some surgeons deprecating the use of spinal anesthesia in acute gut perforations, fearing increased leakage and spreading of a localized peritonitis. I have repaired several perforated peptic ulcers under spinal anesthesia and have considered it an ideal anesthesia in such cases. I have never observed any peristalsis in the large gut under spinal anesthesia.

Not uncommonly there is the passage of flatus on the operating table due to a relaxation of the internal rectal sphincter.

In a case of general peritonitis following suppurative appendicitis with an enormous distension not relievable by ordinary methods spinal anesthesia gave miraculous relief with passage of gas and a diarrhea flooding the bed with fecal material. As in Dr. Weinberg's case, distension recurred and death took place.

In a child 5 years old seen in consultation, suffering from a peritonitis, probably appendiceal in origin, on the first P. O. D., a non-relievable distension disappeared following 25 milligrams of novocain given intraspinally. Recovery took place. W. J. Mayo suggested sometime back that spinal anesthesia might be used to differentiate paralytic ileus and mechanical gut obstruction, because of the relief afforded in the former and the lack of response in the latter. The point is not well taken, however, or at least it is dangerously fallible, for spinal analgesia may give partial relief by relaxing the internal rectal sphincter and stimulating the gut to empty below the obstruction or forcing passage through an incomplete organic obstruction. The Lahey Clinic recently reported such a case and I have another now under observation at the Douglas County Hospital.

I believe there is danger attached to the use of spinal anesthesia as a possible therapeutic remedy in organic obstruction from any cause.

I believe that anyone who has used it to any extent will agree that postoperative distension is much less common with spinal than with other forms of anesthesia. On the basis of the known autonomic innervation of the descending colon, sigmoid and rectum, spinal anesthesia would not in any way effect peristalsis in this portion of the gut as both the parasympathetic and sympathetic nerves are thrown out of commission. Such gut movement as occurred would be carried out by the myoenteric mechanism. The internal rectal sphincter would be relaxed and stimulation of the gut above this region by the unopposed vagus control, no doubt, accounts for the increase in manometric pressure shown by Dr. Weinberg's experiments.

I have enjoyed the paper very much and it has brought to my attention again many facts that should be clear in the minds of any one who employs spinal anesthesia to any extent.

DR. WEINBERG (closing): I did not discuss the action of the intrinsic nerves of the intestine because my knowledge of this subject is too limited. Opinions as to how spinal anesthesia affects them are at variance. I am glad that Dr. Duncan brought up this question.

In regard to using spinal anesthesia in perforations, not long ago I operated on a gunshot wound case in which there were eighteen perforations of the intestine. I used spinal anesthesia and am quite sure that the resulting contraction of the intestine caused more intestinal content to enter the peritoneal cavity than would have entered had I used some other type of anesthetic. The patient died two days following operation. Perforation of the stomach or duodenum is quite another matter. I feel that spinal anesthesia is especially indicated in these lesions because of the ease with which one may work in the abdomen. There is already so much contamination of the peritoneum that there could be no harm in a further slight increase in such contamination.

I am interested in Dr. Langdon's comment on the use of spinal anesthesia in hernia. Spinal anesthesia should be used alone in cases of non-reducible hernia only when the patient is not a fit subject for operation or when the patient refuses operation. I am also of the opinion that spinal anesthesia should be used in all cases of non-reducible hernia where operation is to be performed.

OLD PERFORATIONS OF MEMBRANA TYMPANI CLOSED BY THE USE OF HEAT*

GEORGE A. GRIOT, M. D.,
Chadron, Nebr.

Old perforations of the membrana tympani have always been a problem of considerable importance to the Otologist and of still greater concern to the patient.

In the practice of Otology one is daily confronted with the problem of what to do with old perforations of the membrana tympani. Some perforations give the patient very little inconvenience, while some are a source of almost constant trouble.

Impaired hearing and a chronic discharge are perhaps the most common complaints, but there is always a possibility of complications developing which may lead to a much more serious and dangerous clinical picture. It is not necessary to mention the many clinical conditions primarily due to an old perforation in the membrana tympani.

The two kinds of perforations are the central and peripheral or marginal. Central perforations have been closed by various methods. A very common method is to apply an irritant to edge of the perforation to stimulate growth which frequently closes the perforation. In many instances this results in a larger perforation than in the beginning.

Plating is another method used to close central perforations. This method consists of placing a sterile paper plate usually disc shaped over the perforation, and is used only when the membrana tympani is free from inflammation and there is no discharge from the middle ear. This method is not suitable for very large central perforations.

The disadvantages in carrying out the plating method are many. First the plate is a foreign body which frequently acts as an irritant to the membrana tympani causing pain or inflammation. Second it is at times quite a task to place a plate over a perforation. Third, coughing, sneezing or blowing the nose will quite often dislodge the plate a short time after it has been placed over the perforation making it necessary to replace a new plate.

Plates remain in position at times as long as four weeks and in rarer instances longer. In most instances however the time is from a few days to a week. Much depends on the cooperation of the patient.

The location, shape and size of perforations will not be taken up because it would take too much space.

Anatomically the membrana tympani consists of three layers. The outer stratum cutaneum, the middle lamina propria, the inner stratum mucosum.

The scar of a healed perforation is made up of the outer and inner layers of the membrana tympani.

The equipment necessary for dry heat treatment of the membrana tympani is few and simple. A Politzer bag, silver or metal Eustachian catheter, alcohol lamp and an ear speculum.

The method employed is as follows. A thin layer of moist or wet cotton is wrapped around the ear speculum and then placed in the external auditory canal. The membrana tympani to be treated must be free from inflammation or secretion. Then place metal Eustachian catheter on rubber tip of Politzer bag; squeeze the air out of Politzer bag and suck up flame from alcohol lamp into empty Politzer bag then blow the heat through the ear speculum on the membrana tympani a little at a time, then let Politzer bag refill with a little cold air and blow again till heat is all used, then refill with heat again. Apply dry heat till membrana tympani is quite red. It usually takes from three to five bags of dry heat at a sitting.

In 1926 I used this method and successfully closed a central perforation when all other methods had failed.

In September, 1928, I did some experimental work (using this method) at Washington University, St. Louis. It is proper and fitting that I should here extend my sincere thanks to Drs. Harry Lyman and Arbuckle for their very fine kindly cooperation in gathering clinical material for my experiment. My sincere thanks to Washington University for furnishing space, equipment and a nurse in attendance.

Of the many cases I have selected three typical case reports which are as follows:

Case 1. Mrs. C. W. P. White female, age 46. April 15, 1926, paracentesis of left membrana tympani. May 29, 1926, ear healed, central perforation 2mm in diameter located at lower border of posterior superior quadrant about midway between malleus and periphery of membrana tympani persisted. June 5th, 1926, perforation plated at two to seven day intervals till Aug. 11, 1926. Heat treatments started on Sept. 3, 1926, and given at 3 to 5 day intervals. Sept. 22, 1926, lower margin of perforation began granulating. Oct. 8th, 1926, perforation closed and hearing normal. Nov. 1930, hearing still normal.

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*Read before the Northwest County Medical Society, March 11, 1931.

Case 2. Mr. P. F. White male, age 37. Gave history of impaired hearing and recurrent attacks of discharge from right ear for past 18 years. Examination reveals a large triangular marginal perforation. Base of triangle in posterior inferior quadrant apex extending below and anterior to malleus to the posterior inferior border of the anterior superior quadrant. Heat treatments started March 7th, 1927, at irregular intervals due to long distance patient had to travel. May 14th, 1927, perforation closed. May 28, 1927, hearing test three mistakes at 9 meters. June 20, 1927, hearing normal.

Case 3. Mr. E. P. White male, age 13. Sept. 18, 1930, paracentesis of left membrana tympani. Sept. 22, 1930, ear dry, perforation about 2mm in diameter persists. (Central perforation). Sept. 26, 1930, ear dry, perforation persists. Patient complains of impaired hearing due to perforation. Oct. 2, 1930, heat treatment. Oct. 7, 1930, perforation closed. Oct. 22, 1930, hearing normal, patient dismissed. From this case it would seem that the sooner the heat treatments are started after the ear is dry the shorter is the time for closing the perforation.

From the histories you can note that both central and marginal perforations have been closed by this method (heat treatment). Also large and small perforations and perforations of long standing.

This method has also benefited many subacute and chronic middle ear inflammations with no perforations of the membrana tympani.

Have had cases that did not respond to this treatment. On all cases not responding I was unable to get a complete physical examination which might have given some valuable information. On account of too limited a number of cases and lack of complete physical findings I am unable to state why some cases fail to respond. Perhaps the general condition is of greater importance than the local.

I have been unable to obtain any literature on this work and as far as I can ascertain this is original work. In conclusion I want to urge Otologists to use this method and I am certain if a large number of cases can be gathered the real value of this method will be established.

NEW PROBLEMS OF THE ORTHOPEDIC SURGEON

C. B. Francisco, Kansas City, Mo. (*Journal A. M. A.*, Nov. 15, 1930), asserts that orthopedics is probably undergoing a greater change than any other branch of medicine. The greatest movement in the interest of the crippled child that has ever been known is sweeping over the whole country. Observations rather clearly indicate that the tendency is to take the work to the communities rather than to take the child to the centers where the work has been established. Many of the states in the central portion of the country are at work on plans that will establish clinics throughout the state both for the operative and for the follow-up care of these cases. If this plan is proper and is to be the one ultimately worked out, it creates a definite responsibility in the teaching of orthopedics in the medical schools. To meet this demand, medical students and interns will need to be taught more of the principles of orthopedics and that it is definitely a part of medicine and surgery and not a distinct specialty. It would also necessitate standardizing the ordinary procedures in this line of work and removing the mysterious atmosphere that at present hovers around this specialty. Students can be taught to care for the ordinary congenial and acquired deformities. They need supervision in a general way and it will always be the function of the medical centers and of the medical organizations to furnish this supervision and to supply the institutions to care for the unusual cases that will always exist. The other phase of orthopedics has been toward the industrial side of medicine. The insurance companies need the guidance of the medical profession, but they are still casting about for the methods that bring the quickest results. The orthopedic men have been the ones to whom they have turned for advice.

CLINICAL VALUE OF RECENT ADVANCES IN GASTRIC ANALYSIS

Garnett Cheney, San Francisco (*Journal A. M. A.*, Dec. 28, 1929), urges that all patients suffering from gastro-intestinal disorders have their gastric secretion carefully studied. Such studies have not only given indications for satisfactory therapy but also disclosed fairly constant observations in certain common diseases. The frequency of high acidity in cases of peptic ulcer of the stomach make it a highly important diagnostic sign. It occurred in 96.4 per cent of 111 uncomplicated cases. Gastric acidity observations in gallbladder disease are of no positive diagnostic value, but excess of bile in the stomach is a frequent occurrence. Gastric secretion observations in cancer of the stomach may be highly characteristic and of great importance in differential diagnosis. As pernicious anemia occurs only in cases of true or complete achlorhydria, a histamine test meal is indicated in order to determine this diagnostic fact.

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ANTHRAX

Within recent weeks anthrax has reappeared endemically among cattle in Nebraska and Iowa and has become a menace to humans, several cases of anthrax infection having been reported in farmers and veterinarians.

Anthrax is an infectious disease occurring among cattle in epizootics. Man may acquire it by contact with cattle or sporadically.

It occurs in two forms, the external due to direct infection through an external wound, or the internal caused by inhalation or ingestion of the germ. Anthrax is the "splenic fever" of a former period and in animals it is characterized by high temperature, enlarged spleen, blood extravazations and local gangrene. In animals it is usually a general disease while in man the external form may, though rarely, remain largely localized. The disease is caused by the *Bacillus anthracis.*

It is one of the oldest known infections and is mentioned by the very early writers. It has occurred in Lapland, Siberia, and Central Asia, South Africa and in both Americas.

In man malignant pustules develop at points of accidental inoculation, mostly on the face, neck, hands or feet. The period of incubation varies from one to three days. It first appears as a small red papule accompanied by itching and burning. By the second day a flattened vesicle has formed accompanied by redness and swelling. The vesicle soon ruptures leaving a yellowish erosion which soon turns brown and by the fourth day a black depressed eschar has formed surrounded by a characteristic border of small vesicles. Vesicles also appear on the neighboring skin. The eschar enlarges, the subjacent and surrounding tissues become edematous. The condition may become very extensive. There is a sense of weight and fulness accompanied by a characteristic freedom from pain. A purulent discharge follows the separation of the eschar which occurs in from ten to fifteen days.

Profound systemic complications occur in most cases.

The diagnosis is not always easy. In the external form the pustule occurs on an uncovered part of the body and is free from pain and suppuration, which distinguishes it from boils and carbuncle.

Intestinal anthrax simulates other forms of intestinal poisoning and is difficult to differentiate.

Pulmonary anthrax is likewise very difficult of diagnosis. Bacteriological diagnosis is possible when examination can be made from lesions.

The disease is not always fatal.

Vaccines and serums are now available for the treatment of the disease, and considerable success is reported from their use.

"BOOTLEG SURGEONS"

The editor of the *American Journal of Surgery* in the July number, under the above caption, has this to say:

"A new breed of 'cutter' has sprung up in various parts of the country. They are discovered in the poorer sections of densely populated communities. They are graduates of medical schools. They are licensed to practice medicine and surgery by the state in which they reside.

"These vermin are without a semblance of surgical training. Many of them cannot boast of a six months interneship in a fourth rate hospital. Often they graduated from a medical school within the past five years. They possess real insight into the psychology of human beings, have a thick crust, both mentally and spiritually, never did have a conscience, but their bump of acumen is developed to the nth degree.

They open an office and personally call upon the general practitioners in their vicinity. They talk business from the start. The bootleg surgeon promises to use the general practitioner when he can, for which he will be paid, and in return the general practitioner is to refer all his surgery to the 'cutter' who will remit from 50 to 75 per cent of the fees charged. An equable arrangement for all parties. In no time the 'carver' is doing a great volume of work. Needless to say all kinds of unnecessary surgery is done. The mortality is frightful. The morbidity never will be computed. But the patient always pays and pays. One of their favorite tricks is to give a hopeless prognosis. Should death follow their alibi is air tight. If the patient lives to leave the hospital or sanatarium the surgeon is a miracle worker.

"Personally we know several of this type. One of them, not five years in practice, already is independently rich. These surgical outcasts may be criticized but nothing can be done about it—not at present at least—except giving vent to indignation, as we are doing for example.

"The fault lies with the laws. One passes a state board examination and launched forth to do surgery or medicine in any or all its branches. No previous experience is necessary.

"It is hurting the medical profession. It is unfair to the public. It is unfair to the young man who spends from two to five years as an interne or hospital resident to prepare himself for his calling.

"Talk will get us nowhere. The laws need changing. Some of our medical practice acts need revising and long, sharp teeth added and then used."

POLIOMYELITIS—THE MODERN TREND

Our knowledge concerning this dread disease has advanced in the past ten years. Unfortunately the specific germ has not been isolated as yet. However, one cannot but believe that before many years have passed this elusive germ will be isolated.

Probably the most outstanding advance has been in our recognition of the large proportion of so-called abortive cases which occur in any epidemic of the disease.

We have reconstructed our thoughts concerning poliomyelitis, and believe that it is a general disease in which the whole body is involved, and that the specific polio germ which invades the body will result in most cases in no paralysis. That paralysis, if it occurs, is one of the symptoms and not the disease itself.

The value of reported statistics on the treatment of the disease must be discounted somewhat because of the lack of confirmatory laboratory data other than increased cell count, the difficulty of interpreting early clinical symptoms, and because of the occurrence of many abortive cases without paralysis.

The recognition of the fact of these so-called abortive cases should at once make us more keen for early diagnosis of the disease from June to November in each year, when most cases occur. The fact is also established that if treatment in prevention of paralysis is of avail, the disease must be recognized before the onset of paralysis. We are dependent for our early recognition of the disease upon the presence of an epidemic and our interpretation of early clinical symptoms. Comparatively little progress has been made in the laboratory to help us check up on our recognition of clinical symptoms.

Three methods of treatment, and possibly four, are now recognized as probably of some avail, if the disease is recognized before the onset of paralysis:

Human convalescent serum has been used in epidemics on the Atlantic and Pacific coasts. Also in less degree in Omaha and other cities. Statistics are available claiming that if used early, paralysis does not result. Those who have used this serum admit that it is of no therapeutic value after paralysis. This serum is difficult to obtain, especially in smaller communities when an epidemic is in progress.

At the present writing reports of the use of Rosenow's serum show equally as good results as those treated with human convalescent serum. Numerous complete recoveries are reported when used even after paralysis. Rosenow's serum has the advantage of being easily obtainable in comparatively large quantities, even in small communities. This serum has been used more extensively in the mid-west. It has been advocated in Omaha and throughout Nebraska. The disadvantage in its use lies in the fact that no competent laboratory observer other than Dr. Rosenow has been able to produce the disease with his plemorphic streptococcus.

Frequent drainage of the cerebro-spinal fluid by repeated lumbar punctures has been advocated. Those using this treatment have reported good results. Usually it is used in conjunction with either convalescent serum or Rosenow's serum.

Laboratory experiments are well on the way showing the possibility of the value of blood serum of children over two years of age, and of normal adults who may or may not have been contacts with poliomyelitis. Doctors Shaugnessy, Harmon, and Gordon, working in* the department of Hygiene in the University of Chicago, conclude that serums of contacts, normal adults, and older children, possess greater power to neutralize poliomyelitis virus than does convalescent human serum. This laboratory work seems rather promising, but actual clinical observation with a known potent human serum will** be necessary before our knowledge will be definite.

—Floyd Clarke, Omaha.

DANGERS OF RADICAL OBSTETRICS

The White House Conference on Child Welfare and Protection has done well to call to the attention of the medical profession and public the dangers of radical obstetrics. That radical obstetrics is an ever-increasing menace to mother and child there can be no question. In my judgment the remedies for this evil lies in improved facilities for the care of maternity cases, in the extension of educational opportunities for medical students, doctors, nurses and midwives and in more adequate remuneration for services rendered in obstetric practice.

In the report of the conference the assertion is made that "advocates of radical obstetrics seem to disregard or minimize the inevitable dangers of such practice." There is an increasing tendency to shorten labor by artificial means. This is particularly true of hospital practice and we find as a result of this pernicious practice that the maternal morbidity and mortality is highest in our large cities. In all this the baby gains at the expense of the mother which, we submit, is an entirely false and dangerous premise. Four factors are given as excuses (not reasons) for artificial deliveries: (1) a sense of safety, often false; (2) the almost universal use of anaesthetics in response to the demands of the patients; (3) an exaggerated idea of the value of the infant's life and of the value of operative delivery in conserving this life; and (4) the often false conception that artificial delivery is easier on the mother.

Caesarean section as practiced is given as one, if not the greatest factor, in maternal mortality. Unquestionably it is the safest form of delivery for the child. Women who have been caeserianized resort to the use of contraceptives thus reducing the birth rate.

The number of birth injuries to mother and child have unquestionably increased in direct ratio to forceps deliveries. While it is desirable to relieve the mother of the pangs of labor it must not be done at the expense of mother and child. All drugs, whether administered by mouth, rectum, subcutaneously or by inhalation, tend to produce uterine inertia and to embarass the respiratory center of the baby. They are, therefore, not entirely free of danger and their abuses are certain to be reflected in maternal and infant damage. Nitrous oxide and oxygen are probably the safest of all analgesic agencies. Brusk manipulations of the asphyxiated baby tend to aggravate existing traumatisms and should not be practiced. All attempts at resusitation of the asphyxiated infant should be gentle. It is recommended that 20 cc of parental blood should be injected intramuscularly into the asphyxiated baby.

In the induction of labor the method preferred by the committee of the conference is the artificial rupture of the bag of waters together with the administration of castor oil and quinine. In this connection the dangers of prematurity are stressed. Finally, all possible emphasis is placed on better prenatal, intra-natal and post-natal care; these factors are stressed as of vital importance in improved obstetrical results.

The average woman in this country seems less concerned with the dangers incident to operative interference than with the desire to pass through labor as quickly and comfortably as possible. The medical profession should not lend itself to this conspiracy.

—Palmer Findley, Omaha.

INFANTILE PARALYSIS WITHOUT CONTRACTURE DEFORMITIES

Fortunately for Nebraska, infantile paralysis so far this year has sent its scourge particularly in the direction of the east; the larger number of cases have occurred in Massachusetts, New York and Illinois. The middle west has had relatively few cases as compared with last year. Medical and lay literature have given splendid publicity with respect to the treatment of infantile paralysis during the acute stages and favorable reports have been made particularly in regard to the use of immune and convalescent serum in combatting the disease.

Relatively little space has been given to the prevention of the dreadful deformities that tear at the human heartstrings of fond parents as they see the possibility of their child having a withered arm, leg, or a crooked back. Therefore, at this season of the year, when the acute condition is on the wane, it seems particularly apt that some attention be given to the prevention of these deformities.

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*Shaughnessy, H. J.; Harmon, P. H.; Gordon, F. B.: Neutralization of the Virus of Poliomyelitis by Human Sera. Proc Soc. Exper. Biol. and Med. 27: 742; May, 1930.

**Poliomyeliticidal Action of Normal Human Serum—Editorial, Jour. A. M. A., 95; 1269. Oct. 25, 1930.

It is the opinion of many of us who see and come in contact with anterior poliomyelitis that splinting should begin during the acute attack; first, because the parts affected are extremely tender and painful to touch and move and that by splinting the parts can be handled a great deal easier and with less discomfort to the patient; secondly. it prevents the possibility of early contractures that sometimes are apparent before they are realized by the parent or doctor, due to the fact that some of the muscles get back their strength and activity before others, thus leading to the third reason why early splinting is advisable. That is, if the part affected is held in as nearly normal position as possible all the muscles maintain a relatively normal equilibrium towards each other, the weakened muscles, or paralyzed muscles, are not constantly pulled against by the strong unparalyzed muscles and, as the weakened muscles have a tendency to regain their strength and come back towards normal tonicity convalescence, they have a much better chance of accomplishing this if kept in the normal position than they would have if they were constantly being stretched by the stronger group opposing them.

Of course, after the acute attack and the pain has left the extremities or the parts involved, proper splinting and protection against deformity is even more essential than before. With this, of equal importance is physical or mechanical therapy consisting of massage, active and passive motion, muscle training for the weak muscles, electrical stimulation, and under-water muscle training.

Our responsibility to the poliomyelitic patient therefore, does not end when the febrile stage is over. Were it over we would condemn many of these patients to the ravages of crippled deformities that would ultimately bring them to extensive operative treatment and months of suffering before they were restored to a measure of rehabilitation. All of part of these mechanical devices and therapies must be used in an intelligent manner and with careful guiding influence for at least a year and a half or two years after the attack, to gain the fullest results to be expected.

The under-water phase of physical therapy cannot be over-emphasized as an asset to treatment. Where swimming pools are not available tanks can be constructed in the basement of the home and the parents can be taught to aid the various exercises the child is to use under water. The resistance of the water against the tissues gives a certain buoyancy which allows movement that otherwise would be impossible for these weakened extremities and which markedly stimulate muscle activity.

There are certain classical positions for immobilization of the affected parts of the body with splints which are briefly reviewed, and though I realize every physician is familiar with them, yet drawing attention to them often brings back their efficacy in some particular case we have in hand.

During the acute stage of the disease the back and neck are often very stiff and painful, usually hyperextended and arched forward; there is marked muscle spasticity throughout the back. therefore, it is quite essential that strain in this region be prevented either by carefully placed pads or pillows to the back, or by a plaster half shell which maintains this over-extended curve of the trunk, thus lessening irritation and tending to relax the back muscles within the neural canal. The mere immobilization of the back seems to have a very soothing effect on the symptoms. The position for immobilizing the upper extremity when paralyzed is to abduct the arm to at least 90° angle with the body; flex the elbow to about 90°; put the forearm in supination and the hand in dorsiflexion. This can be accomplished by the use of some type of airplane splint or plaster splint. Of course, when both upper extremities are involved a double airplane splint should be used. For immobilization of the lower extremities the splint should prevent flexion of the thigh on the abdomen, maintain full extension of the thigh, the knee may be slightly bent but preferably straight, with the foot held at a right angle with the leg.

Now these measures may be carried out by gutter splints, molded plaster splint or plaster of Paris cast; a posterior iron, or lateral splints. These should be of such a type that ultimately the patient can walk in them as well as wear them in bed at night.

It is quite essential that these measures be taken and the position maintained with an intelligent understanding of the deformities that may develop if they are not carried out properly. Of course, along with this immobilizing treatment, physical therapy must be conscientiously carried out.

One must not grow discouraged if, as time goes on, function does not seem to reappear in the affected extremity. Splinting cannot cure the paralysis nor can the physical therapy—they are merely adjuncts to nature's fine process in that they endeavor to maintain the extremity in as near normal posture as possible and encourage as near normal muscle activity as possible.

In spite of all of this a certain number of these cases will ultimately come to the operating room for stabilizing operations; muscle and tendon transplants, etc., but they will not have in addition to the paralysis, distorted, contracted, deformed limbs that have to be straightened ere stabilizing operative procedures can reconstruct them to functional efficiency.

—J. E. M. Thomson, Lincoln.

HEALTH PROGRAM NEBRASKA STATE FAIR, 1931

The Health program at the Nebraska State Fair did not show a falling off in appreciation by the public. There was a constant flow of interested people passing through the exhibition hall each day.

The exhibits, which were collected and arranged under the supervision of Dr. J. T. Myers. University of Nebraska College of Medicine, were attractive, interesting and educational, not only to the public, but to the many visiting physicians.

Of particular interest were the large casts of teeth showing the progressive steps of caries and gingivitis. This display was shown by the Nebraska Dental Association which is cooperating with the Nebraska State Medical Asssociation in health program and health education. The American Medical Association had two booths of mechanical exhibits; one showing the functions of the various organs of the body, and the other exposing the claims of patent medicines and quackery.

The Lincoln Public Schools had a most interesting display of charts, posters, and motion pictures, showing its health organization set up, many of the health activities in various schools, and the splendid results obtained through its exceptionally fine system of health conservation work.

A pathological exhibit never ceases to be of interest to the public, and a collection of specimens were shown by the Pathological Department of the University of Nebraska College of Medicine. From another department of the University of Nebraska was shown the proper clothing for children. This practical exhibit was particularly interesting to young mothers and hundreds viewed it carefully.

Other exhibitors were the Nebraska Tuberculosis Association, the American Red Cross, Hygeia, Camp Fire Girls, Y. M. C. A., Boy Scouts, United States Department of Animal Husbandry, and the United States Army.

In the Periodic Health Examination Demonstration Division there were examined 193 babies, 101 children, 172 adults, 7 pre-natals, and 56 4-H Club boys and girls. The examination of these 529 applicants within four days time was made without confusion and congestion, demonstrating the efficiency of the workers and the carefully planned schedule of the department heads.

Dr. Floyd Clarke supervised the examination of babies and children to five years of age. Dr. Francis Heagey had charge of the adult division, including children above five years of age. Dr. Elmer Hansen had charge of the pre-natal examinations, and Dr. E. L. MacQuiddy directed the examination of the 4-H Club boys and girls. In all divisions there were 103 physicians and 35 nurses who gave their services to the health program.

This being the first year that the score method of examining babies had not been used, it was interesting to observe the type of babies that were brought in for examination. They were not competing for a prize and the mother interested in the health of her child, having this sane and intelligent viewpoint, brought in the physically less fortunate and problem children seeking intelligent advice.

The silent pride of knowing her child is normally healthy is taking the place in the mind of the Nebraska mother of the false pride and security that is given by the superficial and meaningless glamour of winning a gold cup. Twenty per cent of the babies brought in for examination were known to be defective, a percentage unheard of in a competitive baby contest.

More and more adults are learning the value of Periodic Health Examinations, and more and more physicians are learning how to give them. No diagnoses were made and no treatment given, all applicants being told that the examination record would be sent to their family physician. There were 195 family physicians named by the applicants examined, and to these men the 529 patients, together with the examination record, will be sent for further examination and treatment.

The Emergency Hospital was again operated by the Lancaster County Medical Society, under the general direction of Dr. Roy Whitham.

In the movie theatre health films were run from 9 a. m. until 6 p. m. with an intermission at 10 a. m. and 3 p. m., when a health playlet, written and produced by a group of Camp Fire Girls of the Lincoln schools, was put on.

—**E. R. Hays, Falls City.**

AMERICAN COLLEGE OF SURGEONS BROADCASTS ITS EDICTS ON ETHICS

Each Fellow of the American College of Surgeons has signed a Pledge, one portion of which reads as follows:

"I pledge myself, so far as I am able, to avoid the sins of selfishness; to shun unwarranted publicity, dishonest money-seeking, and commercialism as disgraceful to our profession; to refuse utterly all money trades with consultants, practitioners or others; to teach the patient his financial duty to the physician and to expect the practitioner to obtain his compensation directly from the patient; to make my fees commensurate with the service rendered and with the patient's rights; and to avoid discrediting my associates by taking unwarranted compensation."

On June 7, 1921, the Board of Regents of the College passed the following resolution:

"*Be It Resolved* that to accept rebates on glasses and other surgical appartus and supplies is considered unethical and not consistent with Fellowship in the College."

The American College of Surgeons is opposed to the practice of receiving rebates, commissions, or compensation of any kind for reference of patients to diagnostic laboratories, and commends the action taken by the California Medical Association at the meeting of the house of delegates, April 27, 1931, approving the resolution presented by its Council as follows:

"*Resolved*: That it is the sense of the Council and it is declared as a statement of ethics in that regard, that any physician who is a participating member of a diagnostic laboratory, and who receives as compensation from that laboratory a portion of the fees paid by patients he has referred to that laboratory, shall be considered unethical . . ."

Violation of the principles of the College by its Fellows is to be the subject of definite action at the annual meeting of the Board of Regents in October, 1931.

We look for the cooperation of every member who is in accord with our ideals.

—**Franklin H. Martin, Director-General.**

GOITER CLASSIFICATION AND NOMENCLATURE

The American Association for the Study of Goiter has adopted the following:

Clinical Classification:

Type 1—Non-toxic Diffuse Goiter.
Type 2—Toxic Diffuse Goiter.
Type 3—Non-toxic Nodular Goiter.
Type 4—Toxic Nodular Goiter.

Nomenclature:

Our association advocates a policy of using the simplest and yet the most descriptive terminology possible.

The use of proper names, while it is impossible to dispense with many well established ones in goiter literature, be discouraged; as should coined words invented to popularize a fad or fancy.

Emphasis should be made upon the importance of not confounding varieties and sequelae with types. The use of such terms as exopthalmic, hemorrhagic, cystic, adolescent, colloid, intrathoracic, substernal and congenital are perfectly proper when used to describe varieties, but only constant characteristics should be used to designate types.

THE EDWIN SMITH SURGICAL PAPYRUS. VIII.

A Dislocation of the Mandible: "If thou examinest a man having a dislocation of the mandible, shouldst thou find his mouth open, and his mouth cannot close for him, thou shouldst put thy thumbs upon the ends of the two rami of his mandible, in the inside of his mouth, and thy two claws under his chin and thou shouldst cause them to fall back so they rest in their places." (Case XXV).

Comment: Two claws means the two groups of fingers.

Gaping Wound in the Throat Penetrating to the Gullet: "If thou examinest a man having a gaping wound in his throat, piercing through to his gullet; if he drinks water he chokes and it comes out of the mouth of his wound; it is greatly inflamed, so that he develops fever from it, thou shouldst draw together that wound with stitching. Thou shouldst bind it with fresh meat the first day. Thou shouldst treat it with grease, honey and lint every day until he recovers. If, however, thou findest him continuing to have fever from that wound thou shouldst apply for him dry lint in the mouth of his wound every day until he recovers." (Case XXVIII).

PROCTOLOGIC HINT NO. XIII

A large number of skin tags externally is definitely an indication that there is a great deal of pathology within the anal canal. Because the external skin tags are painless is no indication that the patient does not have other pathology.

—L. E. Moon, Omaha.

Dear Reader:

The Journal and the Cooperative Medical Advertising Bureau of Chicago maintain a Service Department to answer inquiries from you about pharmaceuticals, surgical instruments and other manufactured products, such as soaps, clothing, automobiles, etc., which you may need in your home, office, sanitarium or hospital.

We invite and urge you to use this Service.

It is absolutely free to you.

manufacturers, and can supply you information by return mail.

Perhaps you want a certain kind of instrument which is not advertised in the Journal, and do not know where to secure it; or do not know where to obtain some automobile supplies you need. This Service Bureau will give you the information.

Whenever possible, the goods will be advertised in our pages; but if they are not, we urge you to ask the Journal about them, or write direct to the Cooperative Medical Advertising Bureau, 535 N. Dearborn St., Chicago, Illinois.

We want the Journal to serve you.

EDITORIAL PARAGRAPHS

Iodized eggs have come on the market. We may now confidently look for antisepticized babies.

The U. S. Public Health Service has demonstrated that fleas carry the germ of endemic typhus fever.

The Clinical Congress of the American College of Surgeons will be held in New York city, October 12-16.

The Inter-State Postgraduate Medical Association of North America will be held at Milwaukee, October 19-23.

The American Congress of Physical Therapy at Fontenelle Hotel, Omaha, October 5-8, will interest a great number of Nebraska physicians.

The airplane as a doctor's vehicle has again been demonstrated in the case of an Omaha physician who flew 300 miles to a confinement case.

The *West Virginia Medical Journal* has started a crusade against the New York and Illinois state journals, because of their advertising policy. The case is hopeless.

It is stated that goiter is unknown in Japan and it is suggested that the use of fish and seaweeds in the diet may be the reason, these articles being iodine bearing.

Basic Science examinations will be given at the State House, Lincoln, October 6 and 7. Nebraska State Board Medical Examinations will be given November 23 and 24.

The Tenth Annual Congress of Anaesthetists will be held in New York City during Clinical Congress of Surgeon's Week. A cordial welcome is extended and every hospitality will be shown those attending.

A recent writer, after commenting on the unsatisfactory result obtained from collection agencies, suggests that the local constable or justice of the peace makes a much more satisfactory collector. Why not?

Cottonwood pollen may bring about hay fever. Cottonwood trees are dioecious, or male and female. The male tree produces the pollen. The "cotton" produced by the female tree does not produce hay fever but may act as an irritant to those who suffer from hay fever.

The use of digitalis in pneumonia is still a mooted question. Wycoff and his associates in Bellevue hospital used alternating cases in a study, digitalizing one group and not the other. For every one hundred deaths in the control group there were one hundred and twenty deaths in the digitalized group.

Contrary to the actions of many physicians, there is still a place for professional dignity among medical men. An elderly lady after mingling with a group of about twenty physicians recently, said there was only one of them who looked like a doctor and one looked and acted like a baseball rooter. If we do not respect ourselves, how can we expect to compel respect from the laity?

It is thought that the hospitalization and treatment of veterans not having service connected disabilities at veteran's hospitals, is but one more step toward state medicine. Certainly the effect on the private, church-supported and other civilian hospitals is little short of tragical. As an organized profession we are always just a little bit late in waking up to the dangers of the hour. Our case is lost before we realize it.

A complaint has just reached us from the secretary of one of our county socities, saying that no member of that society had received a copy of the Journal since March, 1931. Such lapses are most aggravating. Every effort is being made by the business manager to give service to the members, and when these unaccountable lapses occur they should be at once called to his attention. Write to Dr. R. B. Adams, Business Manager, Center McKinley Bldg., Lincoln.

Dr. Aristides Agramonte, New Orleans, one of the greatest of America's physicians, died at New Orleans of heart disease, aged sixty-three years. A Cuban by birth, he was reared and educated in New York City, entered the medical corps of the army in 1898 and in 1900 was one of the Walter Reed Yellow Fever Commission which proved the cause of yellow fever to be the *Stegomyia faciata*. For 25 years he was professor of Bacteriology at the medical school of Havana, and member of the board of health. Recently he became professor of Tropical Medicine in the Louisiana State University Medical School.

THIS MONTH IN MEDICAL HISTORY

Medical knowledge and medical practice of exactly one thousand years ago are of particular interest because of the fact that ancient medicine was being transmitted through the centuries to modern medicine largely by the Arabian physicians of that period.

One of the outstanding and most distinguished of the Arabs was Rhazes, who was born in 852 and died in 935. Rhazes, like many physicians of olden times, was a teacher and a philosopher as well as a physician. His advice to patients was summed up in a paragraph which might well be inscribed upon the walls of many medical institutions at the present time. He said:

"Study carefully the antecedents of the man to whose care you propose to confide all you have most dear in the world. That is, your life and the lives of your wife and children. If a man is dissipated, is given to frivolous pleasures, cultivates with too much zeal the arts foreign to his profession, still more if he be addicted to wine and debauchery, refrain from committing into such hands lives so precious."

His remarks upon one of the popular scientific pursuits of his period, that is to say the search for the philosopher's stone, indicates that not all chemists and scientists were engaged upon this kind of research. He referred to such studies as the "astrology of the lower world" and evidently held the men engaged upon it in more or less contempt.

At the age of fifty, Rhazes was one of the most distinguished professors at the Academy of Bagdad. He was chosen from a hundred of his colleagues to have charge of the Grand Hospital. He was said to have been extremely generous and to have given all of his money to the poor. At the age of eighty, he lost his eyesight.

Rhazes was supposed to have been the first to make the distinction between measles and smallpox, and his treatise on smallpox was published by Dr. Mead, the celebrated English physician, in 1767. It is in the writings of Rhazes, also, that we have the first descriptions of spina bifida. He was an advocate of surgery for cancer only when the entire cancer could apparently be removed at the time of operation.

Contrary to a general impression, Rhazes, Avicenna, and Avenzoar in their extensive writings, were not simply copiers from Hippocrates, Galen, and some of the others among the ancients. The writings of these Arab physicians show that they made many improvements in the knowledge of medicine, and that they greatly improved the clearness and utility of all these matters by the systematic and lucid character of their writing. Their studies in pathology, in diagnosis, in medical therapeutics, and in surgery, all show improvements which have become a part of our knowledge and practice of the present time.

NECROLOGY

Stuart B. MacDiarmid, Omaha; native of Omaha; Creighton University, College of Medicine, 1904; practicing physician in Omaha since graduation; much interested in civic affairs; president, Ad-Sell League in 1924 and a director for a number of years; member, Nebraska State Medical Association; died of an organic heart lesion, August 26, 1931, aged fifty years. A widow and daughter survive.

Clarence S. Molseed, Omaha; native of Vail, Iowa; Creighton University College of Medicine, 1915; in practice in Omaha since graduation; associate professor of surgery at his alma mater; president, Creighton Medical Alumni association at time of death; member, Nebraska State Medical Association; died, September 2, 1931, of acute dilatation of the heart, aged about forty years. A widow survives.

AUXILIARY NOTES

From all over the country some 1400 auxiliary members came to the Philadelphia convention last June. Besides the regular election and business there were three interesting round-table conferences: "Programs for County Auxiliary Meetings", "The Technique and Value of a Committee on Public Relations" and "History and Archives". It is of interest that we have over 12,000 paid-up members. Income last year was $5,338.13 and expenses to April 1 were $3,087.69.

Mrs. A. B. McGlothlan, newly installed president, presided over the post-convention board meeting, two features of which gave helpful results. These were the responses to the topics "What Have I Gotten

Out of This Convention?" and the discussions incident to opening a question and suggestion box.

Not only Pennsylvania but New Jersey and Delaware assisted in the entertainment. Next year the convention will be in New Orleans in April.

The following is the president's message:

The reports of the chairmen of the various national committees and of the state president indicate unmistakably to the Auxiliary women everywhere that as doctors' wives we have a definite sphere of influence as members of lay women's organizations. As such we may form a strong bond between the medical profession and the lay public.

Because of this possibility we shall make every effort this year to strengthen our organization both in numbers and in quality of work done.

The greatest demand made upon us is for the right kind of source material for health programs, and for health program speakers.

We are attempting to supply this information through a selected packet of literature, assembled by the Bureau of Public Information of the American Medical Association; by leaflets on communicable diseases compiled from the best recent medical literature and approved by a member of our advisory committee appointed for that purpose; by the dissemination of leaflets on "Some Contributions of Modern Medicine to the World"; by announcement of the American Medical Association radio broadcasts; and by using our best energies to promote the circulation of Hygeia.

We ask that every doctor's wife read the recommendations concerning Hygeia made to the Woman's Auxiliary by the House of Delegates of the American Medical Association. It is found on page 2116 of the June 20 issue of the Journal of the American Medical Association. Please see that your state and county medical societies also take notice of this recommendation of the House of Delegates.

Many Auxiliaries are doing outstanding constructive philanthropic work such as contributing to a medical benevolence fund, assisting in hospital auxiliary work and establishing medical student loan funds.

We believe that one of the best services we can render to the medical profession is to make our state and national conventions so attractive that great numbers of our women will be enticed to attend and will influence their husbands to come.

The recent meeting in Philadelphia showed that a convention can serve such a purpose. To this end we are already planning to make the convention in New Orleans the best yet if possible and we herewith invite all the doctors' wives to come and bring their husbands.

I hope your Press and Publicity Chairman will let me talk with you again. Always read her reports and those in the Bulletin of the American Medical Association. In the Bulletin are two pages edited this year, as last, by Mrs. Walter Jackson Freeman, our national President-elect. I commend those pages and these to you and ask your support to make our departments co-operative, useful and successful.

At the Nebraska State Fair the Hygeia booth was in charge of Mrs. George Covey, Mrs. Paul Black, Mrs. Earl Deppen and Mrs. Fred Teal.

TUBERCULOSIS ABSTRACTS

A REVIEW FOR PHYSICIANS

Collapse therapy in tuberculosis is now an establised procedure of unquestioned value. Clive Riviere said: "No more hopeful ray of sunshine has ever come to illumine the dark kingdoms of disease" than artificial pneumothorax. This therapeutic procedure, however, has its limitations. Mechanical difficulties brought on by the pathological condition of the lung often make collapse by the insufflation of air or gas impossible or ineffective. Latterly, the injection of oil into the pleural cavity for certain cases has found favor, especially among French phthisiologists. Somewhat timidly, oleothorax is being introduced and practiced in this country. From an article by L. E. Oppengame in the American Review of Tuberculosis, June, 1931, the following abstracts are derived.

OLEOTHORAX

Oleothorax is the injection of mineral or vegetable oil into the pleural cavity. The indications for its use are: to avoid adhesions, to produce a more effective collapse when pneumothorax is ineffective, to give more rigidity to the pleura if a bulging of the mediastinum occurs, to close a perforation of the lung, to change an empyema into a sterile disinfectant oil. In rare cases, it may be used instead of artificial pneumothorax when for any reason a patient cannot return for routine refills.

According to Fontaine's statistics, about 70 per cent of pneumothorax treatments are complicated by pleurisies, 22 per cent result in empyema, and 15 per cent make further collapse therapy impossible because of resulting adhesions. The reason pneumothorax continues to be used in the face of these troublesome sequelae is because not all pleurisies are intoxicating for patients and a great number are beneficial for pulmonary tuberculosis. In fact, by some specialists, the development of pleural effusion is regarded as a natural healing phenomenon. There is evidence to show that pleural fluid has a deterrent influence on the development and the virulence of the tubercle bacillus. But certainly not all pleurisies are benign. Dumarest has classified pleurisies into the following groups:

Tolerated pleurisies with little, torpid, precocious effusion produced by trauma or resulting from irritation of the pleural membranes from air insufflation. In these cases, there is no fever or pain, and reabsorption sometimes occurs by itself.

Acute febrile effusions (serofibrinous) which may appear any time during pneumothorax treatment but frequently between the third and fifth month. Effusions are profuse, there are chills, fever, a stitch in the affected side, dyspnea, irregularity of pulse, increased expectoration, and cough. The condition passes through phases but may persist for months. It is mostly benign, often regresses, and usually disappears when air refills are discontinued, but may subsequently cause adhesions. Empyema may, however, develop from it.

For these two forms of pleurisy, it is often better, after the acute stage is over. to aspirate the fluid and refill with air.

Malignant pleurisies, or purulent, chronic effusions with high and prolonged fever, and causing malnutrition, may develop from the above mentioned forms. The difference is not easily recognized at once; only the evolution of the disease enables one to make the differentiation. Such malignant pleurisies result in complete prostration or amyloid degeneration and usually end fatally.

With rare exceptions, there is no use for oleothorax in benign pleurisies, but in malignant cases, the first step in any intervention should be an oleothorax. Even if the operation is unsuccessful, the patient is improved and thereby placed in a more favorable condition for further surgical interference, such as rib resection or thoracoplasty. For an empyema complicating an artificial pneumothorax (which means pleurisy with tuberculous lesions), oleothorax is the only choice as thoracotomy is almost always fatal. Thoracoplasty done for tuberculosis pleurisies in general leaves a persistent fistula; oleothorax, if properly done, is entirely harmless. For secondarily infected pleurisies (streptococcic, pneumococcic), drainage and not oleothorax is the proper treatment.

OLEOTHORAX FOR LUNG PERFORATIONS

The use of oleothorax for lung perforations is very limited. A small perforation as the result of the breaking of adhesions or a rupture into the pleural cavity of a small, subcortical vomica not connected with a bronchus, justifies an oleothorax. Unfortunately, not very often are we able to differentiate the small, benign perforation from a large, fatal one. (The author describes differential signs).

Temporary perforations do not need an oleothorax. Valvular perforations, not helped by deflation, are benefited by oleothorax. Large perforations are mostly fatal, but if unilateral and recognized at once, thoracoplasty is a help. Burnand and Roussel, however, injected oil in such cases, thereby disinfecting the pleura and placing the patient in better condition for a final thoracoplasty.

USE IN ADHESIONS

With oleothorax, adhesions may be avoided or prevented, though not all adhesions need an immediate oleothorax. (The beginning of adhesions can be foreseen by manometric readings and fluoroscopy.) In unsuccessful pneumothorax, for instance, in partial pneumothorax when only one part is collapsed far from a cavitation which remains open, air insufflations are not only useless but also dangerous because of the necessary high pressure.

OTHER INDICATIONS

Mediastinal hernia or bulging produced by low pressure on the opposite side of a pneumothorax may be reduced by oleothorax. Finally, in exceptional cases, if patients are not able to stay in the hospital or to return for refills, a pneumothorax may be changed into an oleothorax, which requires refills only about every two months.

TECHNIQUE AND RESULTS

Accidents have occurred from the injection of badly or anciently prepared, not-neutralized vegetable oil. But if all precautions are taken in its preparation, there is no great difference in the choice of the kind of oil used. The power of reabsorption depends more on the individual than on the kind of oil. The vegetable oil is milder for the pleura and not so irritant as mineral oil. The author uses mineral oil when he wishes to avoid thickening of the pleura and to produce more compression, while the vegetable oil is used mostly in empyemata.

For the last few years, he has treated many patients with oleothorax and has not had one death directly from the operation. Reported cases of death are probably due to neglect of the pressure which oil produces—a most important factor.

Of the four case histories cited by the author, the following is quoted:

Case 2: Miss A. B., age 21, admitted July 29, 1929. Diagnosis: Chronic pulmonary tuberculosis. X-ray report: Bronchopneumonic type of pulmonary tuberculosis, mainly unilateral. Left lung: Diffuse involvement of entire lung with multiple cavities in upper lobe. Right lung: Negative, except for some hazy appearance at apex and increased size of hilar lymph nodes (?); lower bronchial roots somewhat prominent. January 30, 1930: Initial pneumothorax 400 cc., -4, -1). February 20, 1930: After several refills, re-examination of the chest shows left-sided hydro-pneumothorax, with fluid level up to third interspace and displacement of mediastinum and trachea to the right. In the region of the left upper lobe is seen some lung tissue, with well defined and sharply demarcated areas of lessened density which are undoubtedly uncollapsed vomicae held by adhesions to the chest-wall.

February 24, 1930: Lemon-colored fluid aspirated from left chest (500 cc.); 30 cc. of oilgomenol injected; normal reaction. Patient had in four- to six-day intervals several injections until complete blockage was obtained by June 30, 1930. Since the last injection, we control the amount of oil once every four weeks. The reabsorption of oil in this case since a blockage was obtained was very slow, and we injected only 5 to 10 cc. of oil once a month.

This case is particularly interesting. Why did we change an acute febrile effusion into an oleothorax and what effect was obtained by an oleothorax? Because in spite of the effusion, the cavitations in the upper lobe were open on account of adhesions and because a menacing mediastinal hernia (bulging) occurred which interfered with the further pneumothorax insufflation. After 2-3 months of oil treatments, we obtained a rigidity of the mediastinal pleura, the hernia disappeared, and we were able to inject a considerable amount of oil without fear of rupture. In the meantime, the patient developed after a pneumonia a right-sided pulmonary lesion. We feared to perform a right-sided pneumothorax on account of the left-sided oleothorax, and decided to inject sanocrysin intravenously. The patient is now in a very good condition.—Oleothorax, L. E. Oppengame, Amer. Rev. of Tuberc., June, 1931.

THE SOCIETIES

Seventy-five physicians—almost a record number—attended the annual meeting of the **Elkhorn Valley Medical Society** at the Norfolk State Hospital, August 26. The program as carried out follows:

"Case Report of Agranulocytosis Angina," Jno. Buis, M. D., Pender; "Medical Ethics," Lucian Stark, M. D., Norfolk; "The Significance of Psychoneuroses in the General Practice of Medicine," With Movies, Franklin G. Ebaugh, M. D., Professor of Psychiatry, University of Colorado Psychopathic Hospital, Denver, Colorado, Former Professor Psychiatry, University of Pennsylvania. "Conservative Treatment of Frequent Types of Fractures With Demonstration of Materials and Splints," A. F. O'Donoghue, Sioux City, Iowa.

Dr. Buis presented two case reports of a very rare disease. Dr. Stark's theme was that common sense and common decency should govern our actions with one another in the profession. Dr. O'Donaghue gave an illustrated talk on the treatment of fracture, using many slides. Dr. Ebaugh's address was an ingenous dissertation on the treatment of psychoneuroses and appears in this number of the Journal.

The Madison Five Counties Medical Society meeting was held September 8 at Norfolk hotel, Norfolk. About twenty-five attended. Following the dinner a program was given as follows:

"Premature Infants and Their Management", L. N. Lande, Sioux City; "The Increasing Responsibility of Surgery", Dr. William Jepson, Sioux City.

Dr. Lande's paper gave very pointed directions for the care of premature infants. His method is simple —clothes basket bassinet, ample lining, hot water bottles, etc., far superior to an incubator. Dr. Jepson talked on the varied changes in surgical procedure in a generation, the increased life span of today over fifty years ago, the accident surgery brought by auto and aeroplane accidents and the need for greater discernment in developing the diagnosis of the pathology present in these usually unconscious patients. It was the outstanding talk of the year.

The Otoe County Medical Society held its first meeting of the season September 14, at Nebraska City. Dr. E. L. MacQuiddy, Omaha, spoke on the treatment of "Hay Fever", stressing the desensitation treatment. A clinic for crippled children was discussed and also a maternity ward in the hospital for indigent mothers.

HUMAN INTEREST TALES

Dr. F. J. Wearne, Omaha, is reported ill.

Dr. A. Texley, Carroll, has opened an office in Norfolk.

Dr. C. D. Dowling, formerly of Omaha, has located at Vail, Iowa.

Dr. J. W. Baird has located at Ansley. His paternal home is Arcadia.

Dr. D. B. Kantor, Sargent, submitted to an appendectomy last month.

The Dr. W. L. Shearer family spent the summer vacation in Estes Park.

Dr. J. A. Lanspa has purchased the Tecumseh hospital and will operate it.

Dr. Orrin C. Ehlers has become associated with Dr. Robert M. Lee at Ravenna.

Dr. and Mrs. F. E. Calkins, Fremont, visited in Colorado during the summer.

Dr. and Mrs. A. W. Anderson, Lexington, spent a vacation in Estes Park, Colo.

Dr. and Mrs. J. A. Sanders, Omaha, enjoyed a vacation at Lake Alexandria, Minn.

Dr. and Mrs. E. B. Reed, Lincoln, have gone abroad, for a six months' period for study.

Dr. and Mrs. E. A. Mason, Omaha, spent their vacation in northern Minnesota and Canada.

Dr. and Mrs. C. H. Arnold, Lincoln, made an extensive motor trip west during the summer.

The Dr. A. F. Jonas family spent the summer at their cottage at Lake Mendota, near Madison, Wis.

Dr. H. B. Hunt, Omaha, University College of Medicine, attended the International Congress of Radiology.

Dr. Edwin Katskee, Lincoln physician, was held up and robbed at a street intersection early one morning recently.

Dr. and Mrs. B. B. Davis, Omaha, spent six weeks at Lake Nepigon in the heart of the Canadian Forest preserve.

The sympathies of the profession will go to Dr. W. T. Craft, Brunswick, in the loss of his helpmate, Mrs. Craft, in August.

Dr. and Mrs. W. L. Ross, Omaha, spent six weeks on the northwest coast visiting Dr. and Mrs. W. L. Ross Jr. at Tacoma.

Dr. J. B. Bostick, naval recruiting officer of Omaha for three years, has been assigned to Portland, Ore., as post officer.

Dr. and Mrs. Harley Anderson, Omaha, have gone to St. Louis where the doctor will do post graduate work at Washington university.

Dr. E. W. Rowe, Lincoln, spoke before the local Open Forum club on An American Citizen Looks Anxiously Around, September 12.

Dr. E. Bradford, who forty-five years ago was engaged in practice at Wayne, visited there recently. His present home is Rock Island, Ill.

Dr. J. A. Tamisiea, Omaha, was elected president of the Aero Medical Association of America, at the recent annual meeting held at Kansas City.

A free crippled children's clinic has just been held at Falls City for the four southeastern counties of the state under the auspices of the county societies and the Elks.

Dr. Jennie Callfas, Omaha, is a delegate to the Ecumenical Conference of the Methodist church at Atlanta, Ga. The conference will be in session the entire month of August.

A clinic for crippled children was held at Falls City September 24. It was under the auspices of the Elks and Richardson, Pawnee and Johnson counties furnished the material for the clinic.

Dr. and Mrs. William Gibbon, Iowa City, visited with his parents, Dr. and Mrs. W. D. Gibbon, at Dunbar last month. Dr. William Gibbon is a member of the faculty of the Iowa University College of Medicine.

Dr. A. A. Bald and family, Platte Center, spent a month in the Teton and Yellowstone National parks. The doctor sent to the editor a picture of a 15-lb. Mackinaw trout he caught in Jackson lake; but, you know, picture cards are rather hard chewing!

PROPHYLAXIS OF RINGWORM OF FEET

Earl D. Osborne and Blanche S. Hitchcock, Buffalo (*Journal A. M. A.*, Aug. 15, 1931), report a method for the prophylaxis of ringworm of the feet which has proved satisfactory as judged by fungicidal tests in the laboratory and from practical experience in the high schools of the city of Buffalo and in many other public and industrial institutions. About a year ago it was suggested to one of them that it might be worth while to test out the fungicidal activity of sodium hypochlorite, the common, cheap and harmless bactericide used in most city water supplies. They at once tested out the fungicidal activity of this chemical to five common types of fungi found on the feet of persons suffering from ringworm. From these tests it was evident that a solution of 0.5 per cent sodium hypochlorite should kill all the common fungi found in ringworm of the feet with exposure of fifteen seconds to these organisms in a watery suspension. Fresh moist deposits of ringworm organisms on the feet should therefore be killed with 0.5 per cent sodium hypochlorite, provided the organisms have not penetrated to the deeper cells in the horney layer of the epidermis. With the experimental data at hand, the T. A. Patterson Laboratories supplied the Buffalo high schools, at cost, with sufficient rubber pans and sodium hypochlorite solution to carry out this method of phophylaxis for a period of one year. The company had a special rubber pan prepared whose inside measurements were 2 feet on a side. These pans were made of heavy rubber and weighed approximately 60 pounds. One pan was placed on the floor of the corridor between the dressing rooms and the shower baths and another pan was placed at a point past which all the pupils had to pass just before putting on their clothes. The pans were filled up to the 2 inch mark with 0.5 per cent sodium hypochlorite solution and this solution was changed every morning. Although the solution was never diminished to such an extent that a refill was necessary. it was evident that a large number of persons stepping in and out of the pan on the way to the shower bath might gradually deplete the solution. A slight, but not appreciable, dilution of the chemical occurred. In order to allow for this dilution and for a fair margin of error, the authors have recently recommended the use of 1 per cent sodium hypochlorite instead of 0.5 per cent solution. Up to May 2, 1931, this method of prophylaxis has been employed in the Buffalo high schools for a period of from nine to twelve months. The physical directors of each school have been carefully advised regarding the method and the checking of results. All the complaints have been transmitted to the director of physical education of the Buffalo public schools. He stated that in former years a great many complaints were received and that many new cases of ringworm of the feet appeared each year among high school students. The director of physical education of the public schools of Buffalo reported that this year he had not received a single complaint from parents or pupils because of the appearance of ringworm of the feet. The various directors of the different schools have been well informed on the disease and have been unusually alert in the detection of new cases. None were reported for the entire year. In private practice the authors have noticed a drop in the incidence of new cases of ringworm of the feet in high school pupils of the city of Buffalo. Their records fail to show a single new case, although numerous ones have appeared from the surrounding towns.

FUTURE OF DIABETIC CHILD

Priscilla White, Boston (*Journal A. M. A.*, Oct. 18, 1930), says that with increasing age the diabetic child who has demonstrated his ability to carry on the normal functions of childhood and youth faces a new problem in the possible transmission of his disease. The hereditary taint in the diabetic child is evident. Repeated questioning and the fact that diabetes may be latent in an adult member of the family and not appear until after it has occurred in the child have increased the percentage of heredity in the children 100 per cent. Whereas the fatal cases showed a history of heredity in 20 per cent, in the living cases the heredity has steadily risen year by year until it has reached 40 per cent. The investigation of the pathologic changes in the tissues of the diabetic child, which may be attributed to the disease or its treatment, constitute the second problem. It would be tragic indeed to keep the child alive to be disfigured, to succumb to tuberculosis or to become crippled and blind. For evidence. the author's entire series of patients is available, consisting of 625 diabetc children treated from the years 1898 to 1930 to show whether such tragedies are encountered. Of these children, 212 are dead and 413 are living. White has divided the living children into two groups: the 81 children whose disease began before the use of insulin was begun and the 332 children seen subsequently. The skin of some of the diabetic children of both these groups has shown xanthosis. Although this is disfiguring, it is not of great importance and fortunately is remediable. Xanthoma diabeticorum has proved a rare complication and had been recognized but three times in the group. In two of these cases the onset of diabetes antedated insulin. Tuberculosis or tuberculous lesions have occurred in 10 of the total 625 children. It was present in seven children whose diabetes began before Aug. 7, 1922, the date of the first use of insulin, and in three children whose onset was after that date. The eyes of the diabetic children have so far proved invulnerable. In the only living patient with cataracts, the diagnosis was made in the seventh year of the disease, at the same time that she was found to have pulmonary tuberculosis and calcification of the vessels of the legs. Calcification of the blood vessels of the legs has occurred in eleven diabetic children, all of whom had onset of diabetes prior to August, 1922. The average duration of diabetes at discovery of sclerosis was seven years. The adequate treatment of the diabetic child is a most difficult problem and tests the skill of any physician. The difficulty lies not so much in the severity of the disease as in the four variables that exist. Of these, the first is the reliability or nonreliability of the child, second is the emotional stability, third the variability of exercise, and fourth the inevitability of intercurrent infections. Adequate treatment implies a diet, first, in which the caloric value is such that growth and development neither exceeding nor falling below normal will occur, and, secondly, in which the partition of carbohydrate, protein and fat is so adjusted that after years of treatment it will neither produce injurious effects on the various bodily system nor increase the severity of the disease. A diet in which the prescribed caloric value was at least 50 per cent above the basal metabolism and one in which at least 25 per cent of the total calories were in the form of carbohydrate. thus presupposing the use of insulin, and from 10 to 15 per cent in the form of protein, has been found to answer the first two of the three requirements. The former advocates of high fat and high caloric diets report normal rates of growth in diabetic children but state that the disease becomes increasingly severe. Individual interpretation of data, however, must be considered, as there are no established rules for measuring gains or losses of tolerance. A full decade of time will be necessary to tell which combination of diet, high carbohydrate, a moderate amount, or a low carbohydrate diet, will best answer all the requirements during the course of years. The diabetic child has taught us lessons of great importance: first, that heredity is an undoubted etiologic factor in diabetes; second, that the child affords new evidence to the theory that overnutrition is a precursor of diabetes; and, third, that cataracts and arteriosclerosis can occur in pure diabetes under the age of 20 years. Nevertheless the possibilities of combating the taint of heredity and an environment producing maximum growth are apparent while the evidence of the decreasing severity of diabetes, the absence of its complications in the child treated with insulin from the very onset, and the actual lack of organic disease of the pancreas offer limitless hope for the future of the diabetic child.

INTERSTITIAL KERATITIS

In a check-up examination of sixty-seven persons five years after all active symptoms of interstitial keratitis had subsided under intensive antisyphilitic treatment, Maude Carvill, Boston (*Journal A. M. A.*, June 6, 1931) noted that in twenty-three cases the vision had improved, in thirty-two it had not changed, in nine it was not as good, and in three data were not available. In five of the nine cases in which the vision had failed there were other complications such as cataract, choroidal changes in the macula, glaucoma secondary to marked chorioretinitis of diabetes, exophthalmic goiter, and phlyctenular keratitis. In none of these sixty-seven cases has there been a recurrence of interstitial keratitis during the five years. One patient, however, had a syphilitic iritis; one had a cataract; one had an acute glaucoma secondary to a severe diabetic chorioretinitis, and one had phlyctenular keratitis.

"We must have kindly neighbors,
We must have loyal friends,
On them and all they give us,
The joy of life depends;
This thing called Self is trifling,
It makes success, defeat,
We need the lives of others
To make our lives complete."

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THE TREATMENT OF EPITHELIOMAS BY PHYSICAL METHODS*

ALBERT F. TYLER, B. Sc., M. D.,
Omaha, Nebraska.

Epitheliomas may be found on any part of the body where epithelial tissue exists. This broad usage of the term has been replaced in recent years by the term "epidermoid carcinoma" as suggested by Ewing(1). In this discussion, I shall confine the term to its more common and particular meaning of cancers of the skin.

TYPES AFFECTED

It is generally conceded that blondes are more frequently affected with basal cell epitheliomas than are brunettes. The thin tender skin of the Irish race seems especially prone to undergo epithelial degeneration. One frequently sees the face and dorsum of the hands almost entirely covered with epitheliomas in men of this nationality. On the other hand, basal cell epitheliomas are seldom seen in people with brown or black skin. This rule does not hold true when speaking of squamous cell epithelioma which is no respecter of color.

Krompecker(2) was the first to recognize the basal cell epithelioma as a distinct entity and different behavior than the squamous cell type. Bloodgood(3) recognized the truth of Krompecker's findings and, at once, threw his enthusiastic support to this classification which has not been improved upon since first described.

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*Read before annual meeting Nebraska State Medical Association, Omaha, May 14, 1931.

SEX

Males are affected with epitheliomas in the ratio of four to one female.

AGE

Epitheliomas are most commonly found in the fourth to seventh decades but are occasionally seen in earlier life and in the older. Broders(4) reported a series at the Mayo Clinic in which the average age was 56.7 years.

SITES OF ELECTION

The exposed portions of the skin are more often affected, the face most frequently, with the dorsum of the hands second. Broders(4) says 96 per cent of basal cell epitheliomas are above the clavicles while Scheimer(5) says 90 per cent are above the angle of the mouth.

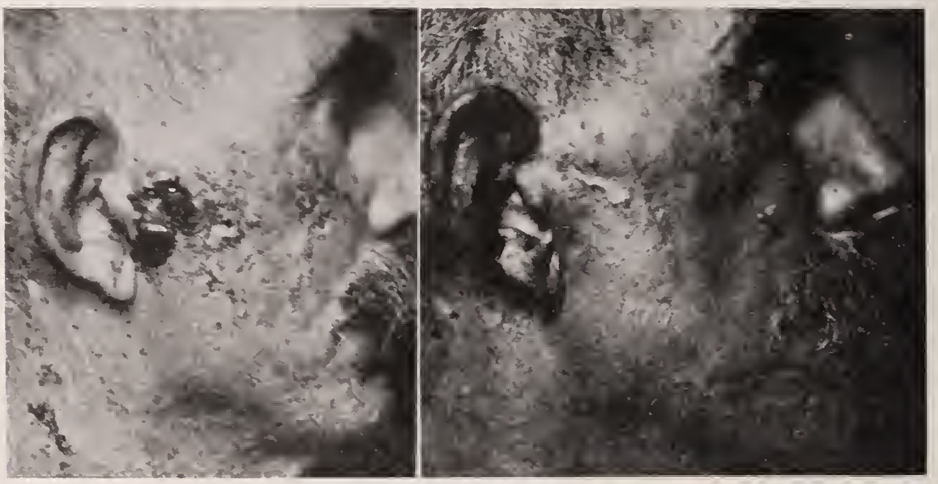

Fig. 1. Ulcerated basal cell epitherioma of right parotid region with many keratoses in same region and on skin of neck. The left before treatment. The right after treatment by x-ray.

ETIOLOGY

Men who must be outside in all kinds of weather seem more prone to develop epitheliomas, such as farmers, ranchmen, truck drivers, etc. Bloodgood(3) holds that epitheliomas never develop in normal skin but do come at sites of long continued irritation, such as from a jagged tooth, a crack in the lip or tongue and from repeated cutting with a razor. Morton(6) calls our attention to poorly fitted nose pieces on spectacles as a causative agent. My own observation confirms the findings of both authorities. I have frequently seen epitheliomas arise in the mouth at the site of irritation of a poorly fitted artificial plate or under a poorly fitted crown or even in a pyorrhoea pocket.

PATHOLOGY

The basal cell epithelioma arises from the basal cells of the malpighian layer of the skin, from fetal rests under the skin or from hair follicles, sweat or sebaceous gland structures but the cells remain of the basal type. This type is essentially a local growth, chronic in nature, which destroys tissue by invasion with subsequent ulceration and infection leading in late stages to erosion of an artery and hemorrhage. The extensive destruction caused by basal cell epitheliomas is frequently called "rodent ulcer". The involvement under the skin is usually much wider than the superficial involvement. There will frequently be found little ramifications downward at places below the depth of the general destruction. Frequently, on the nose and ear, this destruction invades cartilage which is a serious complication and one which makes the prognosis more serious.

Basal cell epitheliomas are considered a local disease but occasionally metastases do occur even in this type. Koerbl(7) reports two such cases and Hazen(8) adds four more. Darier(9) called our attention to a very destructive type which resists all forms of treatment, slowly invades the soft tissues and bones of the cavities of the face and causes death by meningitis. He calls this "rodens tenebrans". It is fortunately infrequent for death from this cause is one of the most repulsive imaginable.

The following case report briefly describes one of two such cases which have come under my observation.

Case No. 25692. Mrs. L. L. G. A married white woman, 38 years of age, gave the following history:

At 23 years of age she had a small growth removed surgically from the skin of the right cheek. Later she had surgical removal of the scar which had become thickened. After this a growth reappeared in the scar and radium was applied at the age of 34. Six months later the orbit was eviscerated, together with the outer wall of the nose and the roof of the antrum. After this the growth recurred in the margins of the wound in the frontal and malar regions.

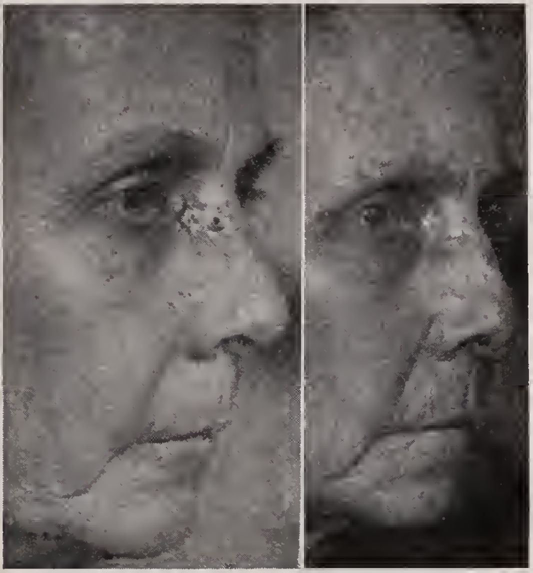

Fig. 2. Basal cell epithelioma on side of bridge of nose at point of irritation of poorly fitting nose piece of spectacles. Before and after treatment by x-ray.

SUBSEQUENT HISTORY

In spite of the removal of frequent recurrences along the margins of the opening in the face and applications of x-rays and radium the destructive process steadily progressed.

We were able to carry her along in comparative comfort for three years and two months, when she died of meningitis.

During the later stages, destruction had progressed until one could look directly into the mouth, into the opposite antrum and could see the base of the right frontal lobe and a portion of the left frontal lobe of brain and the pituitary gland and optic chiasm.

Clinically this case represents the type "rodens tenebrans" of Darier.

Squamous cell epithelioma arises as a down growth of both basal and overlying cells which soon show characteristics of the normal changes into flat cells often with intercellular spines. This type invades bone by direct extension as readily as it invades soft tissues, metastasizes early and is very resistant against all forms of treatment. Squamous cell epithelioma called by Ewing(1) "acanthoma" is no respecter of races attacking the dark skinned people with the same relative frequency that it attacks the blondes. The age incidence is about the same as in the basal cell type. Simmons and Dorland(10) reported 187 cases of squamous cell epithelioma of the lip, six of which occurred under 30 years of age.

Males are more frequently affected. The frequency of this type of epithelioma in the mouths of men who smoke, accounts for a considerable percentage. Now that women are smoking, authorities are awaiting the time to see whether this habit changes the ratio of occurrence in the two sexes.

Squamous cell epitheliomas follow long continued irritation in the mouth from a sharp tooth, a poorly fitting dental plate, a pipe burn, a cud of tobacco, or from a weather crack. They may arise as a complication of some of the chronic dermatoses, in scars and ulcers of the skin or even in chemical workers whose skin is exposed to chemical irritants. This is the type that occasionally complicates chronic x-ray or radium burns in those working with these agents.

DIFFERENTIAL DIAGNOSIS

The two types of epithelioma must be distinguished one from the other. Both must be differentiated from chronic inflammatory lesions, syphilis of the skin, lupus and pyogenic granuloma. The history, blood Wassermann test, clinical appearance and biopsy make the positive diagnosis possible. The routine employment of biopsy not only makes the diagnosis certain but gives one an idea of the prognosis. The system of grading the malignancy of epitheliomas work-

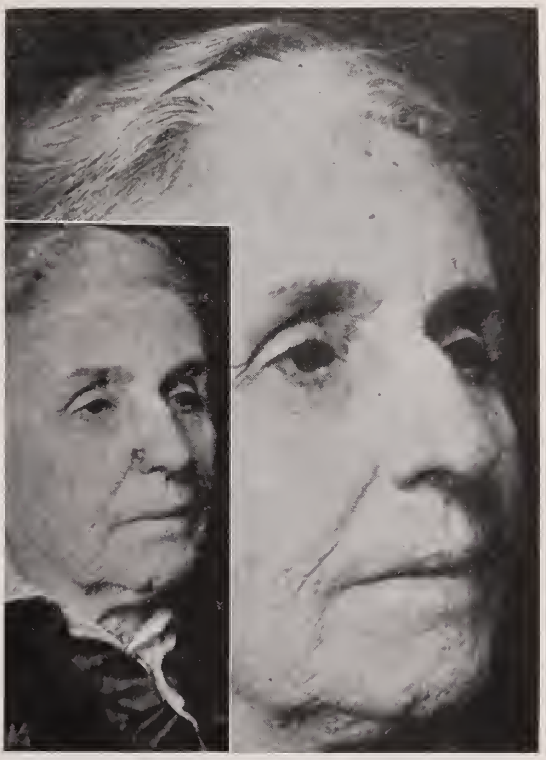

Fig. 3. Basal cell epithelioma junction of cheek and ala nasi—an especially dangerous location. Before and after treatment by electrocoagulation, curettage and x-ray.

ed out by Broders(11) remains the most satisfactory method. In this method the tumor under consideration is graded 1, 2, 3, or 4 with the least malignant as 1 and the most malignant as 4. Ewing(12) is making a classification based upon the radiosensitivity of the tumor. This will be a great aid in the choice of the best method of treatment.

TREATMENT

The experience gained in the treatment of epitheliomas of the skin by physical methods, during the last twenty-five years. has led me to the opinion that physical methods offer certain advantages in certain types, while in other types a combination of physical methods and surgery is preferable. In small epitheliomas on the face, where cosmetic effects are especially desirable, x-ray or radium are the methods of choice. In the larger epitheliomas, even on the face, I prefer electro-coagulation under infiltration anesthesia, followed by curettement. The curettement is carried on as far as possible without producing bleeding, then additional coagulation is done followed by another curettage. This process is repeated until every bit of the growth has been removed. Observation has proven that most of the recurrences, which follow the use of coagulation alone, is due to the fact that the cooking process has not extended deep enough so as to destroy all of the malignant cells.

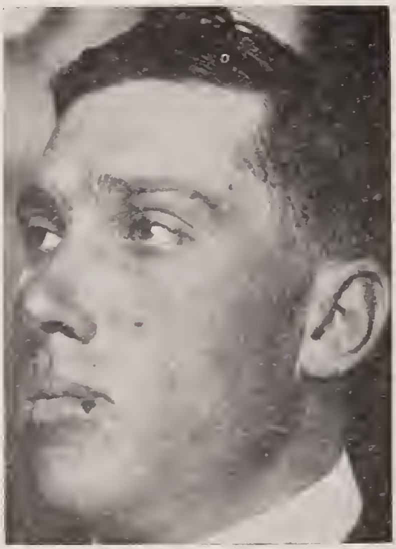

Fig. 4. Squamous cell epithelioma at mucocutaneous junction of lower lip. Treatment by electrocoagulation, curettage and radium. Well 10 years.

Where one curettes the coagulated area, frequently, projections will be found down through the subcutaneous tissue which are much deeper than the general involvement. It is these deep projections downward which are not sufficiently heated to cause death of the cells, unless one curettes the coagulated area off and looks to see whether any of these projections remain insufficiently treated. It appears to me that the sparking method, used by many on small epitheliomas on the face, commonly called desiccation, gives a sense of false security because of the fact that this method of application of the high frequency current gives a very superficial destructive action. In those types where coagulation and curettage are indicated, it is my preference to follow immediately with x-ray treatment. In those epitheliomas where metastases have occurred into the adjacent lymph nodes, it occurs to me that the primary tumor can be taken care of by radiation or radiation and electro-coagulation, but the glands themselves should be removed by surgical methods, either with a sharp knife or with the radio-knife. Following the surgical removal of the metastatic glands, radiation should be employed.

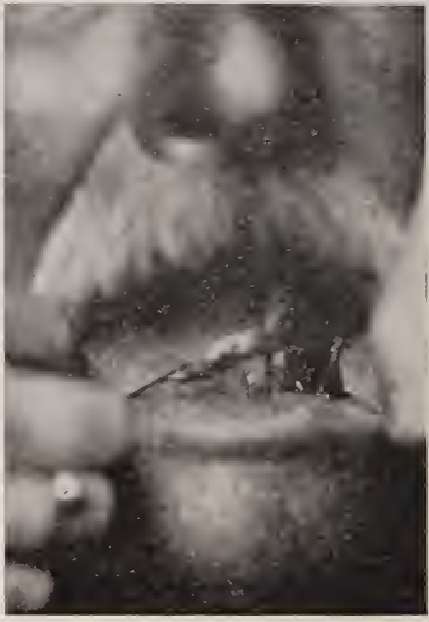

Fig. 5. Squamous cell epithelioma arising around a jagged tooth in a pyorrhoea pocket. When this photograph was taken the growth had already invaded the bone of the mandible. Radium offers most help but prognosis is bad.

There are certain localities where epitheliomas are found which do not bear x-ray or radium very well. I wish to call attention to the mastoid region. the dorsum of the hands, the dorsum of the feet and the regions of the shins. These areas have little subcutaneous tissue and if sufficient radiation is employed to destroy the growth, circulation is considerably diminished and a little scratch or some other kind of trauma, after the radiation scar has healed, will frequently cause the tissue to break down and a sluggish ulcer to form. Because of the diminished circulation repair is very slow and sometimes impossible.

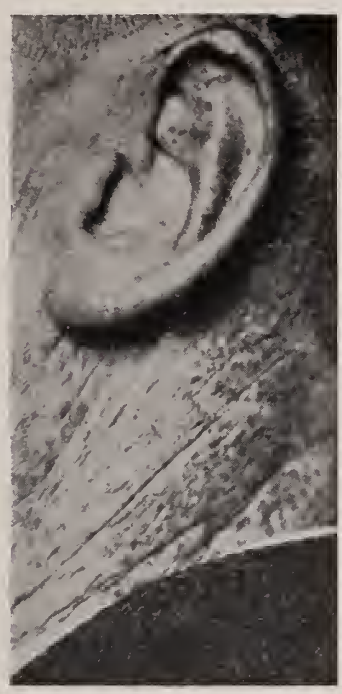

Fig. 6. Epithelioma which had already invaded the cartilage of the ear. Treated by electrocoagulation curettage and x-ray. Healing slow due to cartilage involvement but well nine years.

REFERENCES

1. Ewing, James: Neoplastic Diseases, 457; 1919, W. B. Saunders Co.
2. Krompecker, E.: Beit. Path. Anat. u Allgem. Path. 28; 1:1900.
3. Bloodgood, J. C., Prog. Med., 134, Dec., 1904.
4. Broders, A. C., J. A. M. A., 72; 856:1922.
5. Scheimer, B. F., Simpson, B. T., and Miller, T.: Amer. J. Surg., 33; 1:1919.
6. Morton, J. J.: J. A. M. A. 84; 666:1925.
7. Koerbl: Archiv. f. Klin. Chir. 97; 752:1912.
8. Hazen, H. H.: South. Med. J. 10; 241:1917.
9. Darier, J.: Brit. J. Derm. and Syph. 34; 145:1922.
10. Simmons, C. C., and Dorland, E. M.: Surg. Gync. & Obs., 35; 766:1922.
11. Broders, A. C.: Arch. Path. & Lab. Med. 2; 376-381; 1926.
12. Ewing, James: Radiology 14; 186:1930.

DISCUSSION

ROSCOE L. SMITH, M. D. (Lincoln): I consider it a privilege to have the opportunity to open this discussion. Dr. Tyler has had more experience, over a longer period of time, than any man in the middle western country, and his conclusions should be of great value to us. I remember twenty years ago, when I was learning my A, B, C in radiography, I found my greatest source of information from Dr. Tyler.

Dr. Tyler has covered the subject thoroughly. He has called to your attention the fact that epithelioma is a disease affecting people over forty, and of most frequent occurrence in the male. An analysis of 1300 cases shows that 91 per cent were found in men, and mostly on the lower lip. There were only a few that were simple. I think he has shown more simple epitheliomas than I have seen before.

Clinically, they are divided into two groups—the large, indurated, warty type, and the other group which becomes infected early and produces metastasis early. These latter cases resist treatment, and usually terminate fatally.

I agree with Dr. Tyler as to the method of treatment—that is, x-ray, radium, electrocoagulation. I do not think surgery assists materially in relief of these patients. When necessary, we resort to surgical means, because the case is so far advanced that relief to be had from surgical methods is welcome.

I remember one case of epithelioma of the lip I saw recently in a man about thirty-five years of age, who presented himself to his surgeon. The surgeon removed a large section of the lip, distally surrounding the entire epithelioma. Three months later, the man returned, and he was sent to me for radiation. We treated him with radium both on the lesion and surrounding it, but the lesion never disappeared. Several times during the course of eight months we applied radium and x-ray, and finally removed the entire lip, down to the point of his chin, with electrocoagulation. This case progressed rapidly and terminated fatally, with marked involvement of the entire jaw.

These cases are discouraging, but fortunately, few in number. It has been my experience most of them respond well to treatment. It is my opinion radiation is the method of choice. Any case that can be treated surgically can be treated as well with radiation, with better cosmetic effect.

ALFRED SCHALEK, M. D. (Omaha): I believe it is a generally accepted fact that epithelioma of the skin is much better taken care of by physiotherapy than by surgery. One reason for this is that the surgeon can only excise as much as is macroscopically involved in the epitheliomatous change, which by no means is always all there is to it. On the other hand, x-rays have a selective action on the malignant cells, and they very often reach deep cells which cannot be demonstrated clinically.

There is one thing which makes it very difficult to decide whether an epithelioma is benign, which almost anybody with any kind of technique is liable to cure with x-ray. A squamous-cell epithelioma is malignant, and sooner or later metastasis may occur. How is one to decide which type it is? Taking a biopsy specimen is a poor way, because by doing it we may hasten a metastasis.

Here is the point I wish to make: In order to treat epitheliomas successfully one must know the technique of the x-ray treatment, must know the pathology, and must be able to recognize lesions clinically.

These pictures which Dr. Tyler showed are pretty far advanced types of epithelioma. It is entirely unnecessary to let them go so far. Epithelioma can be stopped much earlier, and, if not, the fault lies either with the patient or with the physician who sees the case in an early stage. In spite of our campaigns against cancer, patients often do not pay attention to lesions which look harmless and do not heal with local applications. Physicians are often careless. People say, "I went to my doctor and he said, 'Leave it alone. The more you fool with it, the worse it gets'." There is no excuse for that.

Another thing I should like to mention is physiotherapy in incurable carcinoma. I remember a lady, seventy years of age, with an epithelioma on the lower part of her leg. Some physician gave her insufficient x-ray treatments and it never healed. When I saw her, she had a generalized cancerous eruption over her chest and on the inside of both thighs. She suffered terribly and could not sleep. We decided to give her massive doses of radium. We applied it for three days, twenty four hours each day, and were able to stop the pain and make her comfortable. She died three months later.

W. E. LIBBY, M. D. (Wymore): Do you believe these patients are best treated by single massive doses, or by repeated smaller doses?

DR. TYLER (closing): Dr. Schalek spoke about these photographs being advanced cases. That is usually the type I see. It is seldom I see the early case. Patients either have not gone to a physician, or have been previously treated unsuccessfully. The squamous-cell type in the oral cavity is the most discouraging type. More recently, I have become bolder in the treatment of these. At the present time, I am convinced the correct method of handling is to be overdestructive. I prefer to use coagulation, destroying the bone with the electric current. The soft tissues are treated with massive, heavily filtered doses of radium, cross firing through the involved area. This gives the best results. I frequently destroy half the mandible with electrocoagulation.

Dr. Schalek also spoke about the disadvantages of biopsy. I feel the same way about it. But now we have a method which gets away from the difficulty he mentioned, which is to remove the tissue with the radio knife and to use electrocoagulation immediately which seals the vessels. In the cases handled that way, we have no trouble with metastasis.

As to the technique, in skin cases, we use 110 k. v. p. 10 inch distance, 1 mm aluminum filter, 5 ma, 15 minutes, which will give a reasonably strong erythema. In advanced stages, we treble or quadruple the dose, purposely producing tissue destruction. If done once, it will recover. If you repeat the dose, it will not recover.

Dr. Libby asked whether the treatment should be given in single doses. In earlier days, I was trained to use the fractional dose method wherever it was possible. We would give a little each day until we began to see an erythema. Then we would stop. I think in ordinary epitheliomas we get as good results as with the massive single dose. There are other factors which enter into that. Sometimes the patient will not stay so that you can use the fractional method, so we must treat by massive single doses. As far as actual results on those cases which involve superficial tissues, I do not think there is a great difference.

Dr. Schalek mentioned the use of x-ray and radium in paliation in far advanced cases. That is one of the best uses to which radiation can be put in these hopelessly inoperable types of epithelioma with metastasis. I have found the little skin recurrences in the anterior chest wall, which come back after amputation of the breast for carcinoma, respond best to radium. Usually a single radium dose over each nodule will cause its complete disappearance.

I thank you.

WHAT EVERY ADULT SHOULD KNOW ABOUT CANCER*

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At the present time there is no cure for the late stages of cancer and no reason why any individual should wait for the late stages of cancer and then expect or demand a cure.

The warnings of cancer often appear before cancer has developed and with the rarest exceptions cancer gives definite warning in its earliest and curable stage. No one will miss the warning, but every one requires some special information to tell him that these warnings may mean a condition that precedes cancer or the earliest stage of cancer. Therefore, there must be no delay in seeking an examination by the family physician.

To be protected from cancer, or to get the treatment which promises the greatest number of cures for cancer, everyone must act in time, just as she or he is warned in time. The protection of the eye from injury is a reflex which immediately closes the eye as the brain receives the warning, through sight, or the incoming injury. This is true to regard to protection from cancer. The response to he early warnings must be immediate action.

We are rapidly understanding that if people wish to learn how to preserve the health of their children and themselves, how to reap the greatest benefits of preventive medicine and how to get the treatment for any disease which promises the best results, they must select a family physician or medical advisor before they are ill, and visit him periodically not only for an examination, but for the just as important conversation which keeps them posted on the newest discoveries in preventive medicine, the newer ideas on the preservation of health, new methods of protection against accident and disease.

Every woman should know her danger of cancer of the breast or uterus. It is unnecessary to instruct women how to feel a lump in the breast. With the rarest exception they will feel a lump in time. Their protection is to seek an examination the moment they feel or think that they feel a lump. They must also know that if they feel, or think that they feel, a lump, there is large chance that it is only part of a lumpy breast and not serious. But even if they feel a definite lump their chances may be more than fifty per cent that the lump when immediately operated upon, will prove to be benign and the breast will be saved. Should the lump prove to be malignant the complete operation must be performed, as this gives the best chances of a permanent cure. We must tell women that cures are accomplished even when they delay after feeling a lump, due to the fact that the lump may not be cancer for months or years, or the lump may be a chronic form of cancer. But every woman should emphatically know that when she delays after feeling a lump, she gambles with the odds against her.

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*Hagerstown (Md.) Cancer Meeting, November 23, 1926. Reprinted from The Indianapolis Medical Journal.

The danger of cancer of the uterus in women is even greater than that of cancer of the breast. because the danger of delay is greater. If all women who felt a lump in the breast and all women who observed anything unusual in the monthly discharge, or its reappearance after the change of life, reported within three months, the greatest number of cures of these in whom cancer developed—would be among the women with a lump in the breast.

Cancer of the uterus attacks women who have borne children. The medical profession throughout the world now recognizes that the expectant mother should be under medical supervision not only during the birth of the baby, but before and after. This protects her almost up to 100 per cent from the dangers of child birth and also protects the child. To protect her from cancer not only must the possible injuries of childbirth be repaired, but this mother of children should be under the supervision of her family physician and go to him at least *once a year for examination.* To protect women from this type of cancer, *periodic examinations seem essential.* Simply to tell them to come for examination the moment they observe anything unusual in the monthly period or its reappearance after the menopause is not sufficient.

Men and women who use tobacco in any form, including snuff, should know that the cause of cancer of the mouth. lip and tongue is the irritation of the combination of tobacco and ragged, dirty teeth. An essential rule of health in all ages is—clean teeth. We now know that the preservation of the teeth begins with the proper feeding of the mother before the child is born and the proper infant feeding. This demands the knowledge of the essential foods, one of which is cod liver oil for mother and child. The next is the constant continuous supervision by the dentist of teeth during childhood and later in life, and third, x-ray films of adults' teeth perhaps even as often as annually after the fortieth year. All users of tobacco should see a dentist at least every three or four months. Smooth, clean teeth are the essential protection from cancer in those who would enjoy tobacco with the least danger.

The moment a tobacco user notices any unusual sensation or spot in the mouth he should stop tobacco and see his dentist and physician. The American people have received messages in regard to cancer through every possible means of communication since 1913, largely through the American Society for the Control of Cancer, whose representatives in the medical profession are in every county of every state in the Union. This message has saved many lives from cancer. My own records show that hopeless cancer of the breast and the oral cavity has been reduced from 55 to less than 10 per cent, and the actual cures have increased from less than 10 to more than 60 per cent. This encouraging change is entirely due to giving the people correct information. Cancer of the skin has been even more favorably influenced. Cancer of the skin and mouth should, by education alone, be eliminated. The cures of cancer of the breast should be increased to at least eighty per cent. The figures show that the educational efforts have had less effect in reducing the per cent of inoperable cases in cancer of the uterus and less effect in increasing the number of cures. That is why some students of the problem feel the urgency of advising periodic examinations of the mothers of children.

Another great improvement is that radium offers a hope of a cure in delayed cases where the late cancer has become inoperable, but there is no doubt that the best results from radium depend on the same factors as the best results from operation—earlier application. There is no doubt that in spite of all this educational effort there is yet very little improvement in cancer of the stomach and perhaps only a slight improvement in cancer of the colon and rectum. The warning of cancer of the stomach and colon in their beginning, when operation offers the best chance of a cure, are not different from the ordinary discomforts in the region of the stomach and colon which most of us call indigestion.

There is also no doubt that the development of the x-ray for the diagnosis of organic lesions of the stomach and colon has reached such a point that if an individual with cancer of the colon or stomach seeks an examination and the x-ray is employed, this malignancy will be revealed. There seems no difficulty in getting people with chronic indigestion due to cancer to receive all the benefits of the x-ray study. But, unfortunately, if their chronic indigestion is due to cancer the chances are that the cancer is late and inoperable, or if removable, relief will only be temporary, because the disease has spread beyond the stomach or colon. The problem now is not to get these people to be examined or x-rayed, but to get this life-saving examination in time. Unfortunately there is so much indigestion that has no relation to cancer and it may go on for years without relation to cancer. that it is hard to persuade either the people or the medical profession of the importance of subjecting all to x-ray examinations. It is also true that if anybody today who is suffering with indigestion demands an x-ray, there would be great difficulty in getting it done.

In 1913 I finished and published a complete study of all the cases of cancer of the stomach which were admitted to the Johns Hopkins Hospital and to St. Agnes' Hospital in Baltimore. Up to that time in spite of the splendid achievement of operation the actual per cent of five year cures was less than two. In June, 1926, I made a comparative restudy of the evidence accumulated in thirteen years as compared with the evidence of the first twenty-three years. It is quite true that the per cent of hopeless and inoperable cases was reduced but this was slight as compared with the reduction in the same kind of cases of the breast and mouth. It was also true that we were able to operate upon and completely remove the cancer of the stomach in a much larger per cent than previous to 1913. These patients recover from the operation, but the number of five year cures has increased only slightly. It is my opinion that we must frankly tell people that it is possible for everyone, to a very large degree, to eliminate all these forms of indigestion that have nothing to do with cancer or ulcer.

These forms of indigestion are dependent upon improper food in quality and quantity, upon excess of alcohol and tobacco, upon bad habits of living—chiefly lack of exercise and fresh air; then there is the indigestion of ragged, dirty teeth or root abscesses. of infected tonsils and sinuses, and many other perfectly definite controllable factors, one of which is excessive sugar—too much candy. When these controllable factors of indigestion are eliminated—and they should be eliminated for other reasons than protection against cancer, then, if an adult of over thirty suddenly observes any form of indigestion, he has good reason to seek an immediate examination and a thorough x-ray study. We have educated the people in regard to their appendices and in regard to tonsils. Appendicitis with abscess and peritonitis is now very unusual among informed individuals under the care of competent physicians and surgeons. I am confident the same results can be obtained in regard to cancer of the stomach and colon. I am also quite sure that the first thing to do is to get before the public the very great and increasing danger of cancer within the abdomen—more than one-half of the more than one hundred thousand annual deaths from cancers are caused by cancers of the abdominal viscera, chiefly the stomach, colon and rectum. Second, everyone can easily eliminate those forms of indigestion which apparently have nothing to do with cancer, but which mask the onset of cancer in such a way that the great majority of individuals who have cancer do not come under the medical supervision until cancer has reached its late stage when the great opportunity for a cure is lost.

CANCER IN BONE

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Cancer in bone has been shown to be always a secondary manifestation of carcinoma primary somewhere else. It is a fact, however. that many patients with bone and joint symptoms and with x-ray changes that appear to be primary in the spine, femur, tibia, etc., are really suffering from bone cancer.

For that reason a differential diagnosis must often be made to decide between tuberculosis, syphilis, benign tumors, sarcoma and cancer, and cancer, especially in elderly patients, has a considerable percentage in this large group.

Dr. Charles Geschickter(1) has given us a long and interesting article, beautifully illustrated, dealing with the x-ray diagnosis of bone tumors of all kinds. In connection with secondary bone carcinoma he gives the origin of metastasis in bone, for cancer of all kinds, from the surgical pathological laboratory at Johns Hopkins University as follows: Prostate—134; breast—100; hypernephroma—22; gastro intestinal—11; female genital—7; thyroid—6; skin—5; lung—4; tract—3; nasal pharynx—2; bladder, chest wall, neck and testicle—1 each. From undetermined sources—36. This is in a total series of 334 cases.

Because of the fact that the present writer has to do so largely with orthopedic conditions in children, bone sarcoma is seen very much more frequently than bone cancer. However, it so happens. that in three cases seen during a recent period, two of breast origin and one of the uterus, there was extensive carcinomatous involvement of the lower dorsal and lumbar spine and no metastasis elsewhere that could be determined.

It is further study of the same 334 cases referred to by Dr. Geschickter, Dr. Copeland(2) calls attention to the fact that, as related to the primary cancer, the percentages of secondary occurrence in bone are as follows: Hypernephroma —35%; lung—16%; prostate—13%; and in cancer of the breast only 5%. The much larger number of cases commonly occurring in the breast and in the prostate account for the at first apparently larger number of secondary bone cancers in this group.

In a similar study by Lenz and Fried(3) of New York, it was found that in 168 cases of cancer of the breast, there was metastases to the skeletal structures proven by x-ray or at autopsy in nearly half the cases.

Hirsch and Ryerson(4) called attention in 1928 to the relationship between primary lung cancer and the secondary tumors in bone which have sometimes been described as primary endotheliomas. Several illustrative patients were described and the pathologic studies of Dr. George Dick and Dr. E. R. LeCount were included. An extensive list of articles had been studied and their titles were given as a bibliography. Hirsch and Ryerson concluded that a great many patients who apparently had primary bone tumors, and whose bone tumor symptoms were predominant, were in reality patients who had primary bone cancer of the lungs.

These tumors seemed to be of the character that had previously been described by some writers as primary endotheliomas of bone. They called attention to the fact that it is necessary sometimes to make an extensive search for the primary tumor in patients who have succumbed to such apparently primary bone endotheliomas, and that such primary lesions are quite likely to be pulmonary.

Many writers on carcinoma in bone call attention to the fact that the skeletal lesions are often those for which the patient comes to the physician or surgeon seeking relief. The primary growth may not have given symptoms or manifested itself at all but a secondary metastatic focus or several in bone may be presenting symptoms of pain, muscle spasm, limp, limitation of motion or even definite enlargement as if they were primary tumors. In such cases a diagnosis is important and the primary lesion should be sought. Treatment is often not very hopeful, but on the other hand relief or even cure may follow adequate splint, x-ray or surgical treatment.

In an article by Dr. Charles G. Sutherland(5), attention is directed to a point in differential diagnosis as between Paget's Disease and secondary bone cancer. The writer heard this particular matter discussed by Dr. Lovett many years ago. He showed fifty lantern slides to indicate that by x-ray diagnosis alone the distinction between bone cancer, various sarcomas, bone syphilis and some other bone changes, is extremely difficult. Dr. Sutherland points out that it is necessary to rely upon other symptoms, such as the type of pain and the course of disease and especially the relationship to any previous growth in some other portion of the body. He mentions that malignant disease of the prostate is one of the conditions especially to be sought for.

In an article by Dr. James Borak(6) of Vienna, on the Analgesic effects of Roentgen rays, he concludes that the use of Roentgen rays to relieve pain in malignant bone tumor is actually an attempt to improve the patient's condition or it is not. He says that the pain is relieved only as the tumor symptoms otherwise are modified or relieved, and that to attempt to use the x-ray as an analgesic only is to give it less than it deserves as a therapeutic method. He believes that in a considerable number of cases the course of the disease may be considerably modified as well as the pain relieved by proper use of the x-ray.

It is hardly necessary to say that the treatment of bone cancer must usually be surgical when any treatment is indicated. From the orthopedic surgeons standpoint, however, pain and deformity may often be palliated considerably by suitable plaster of Paris casts, jackets or splints. Other mechanical devices may be employed for immobilization of painful joints, relief of muscle spasm, protection of eroded bone against fracture and for the support of damaged spines.

To a considerable extent, however, cancer in bone is of academic interest, with diagnosis as the principal function of the physician or surgeon.

1. Geschickter, Charles F.: The Roentgenologic Diagnosis of Bone Tumors. Radiology, Vol. XVI, No. 2, page 111, February, 1931.

2. Copeland, Dr.: Radiology, Vol. XVI, No. 2, page 198, 1931.

3. Lenz and Fried, New York: Annals of Surgery, Vol. XCIII, No. 1, page 278, 1931.

4. Hirsch and Ryerson: Archives of Surgery, Vol. XVI, No. 1, page 1, 1928.

5. Sutherland, Charles G.: The Differentiation of Osteitis Deformans and Osteoplastic Metastatic Carcinoma. Radiology, Vol. X, No. 2, page 150, 1928.

6. Borak, James, Vienna, Austria: Analgesis Effect of Roentgen Rays, Radiology, Vol. XIV, page 328, April, 1930.

THE SIGNIFICANCE OF RECTAL BLEEDING

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The appearance of blood at the anal orifice is one of the most frequent symptoms accompanying diseases of the lower intestinal tract. The importance of the bleeding varies with the degree of interest the examiner has in sincerely attempting to establish the cause. The source of the blood may be a slight break in the mucosal wall or an early or well developed carcinoma. Based upon this one single symptom, the treatment varies from the application of an ointment to a radical resection of some portion of the colon, rectum or anus.

This symptom should always suggest a complete examination, including a proctoscopic. At times, the local region may be so painful and tender that palliative treatment must be instituted for several days before making the examination complete. It is only by attaching great significance to minor symptoms that we can hope to reduce the large percentage of inoperable cases of carcinoma that reach the surgeon. Also from an economic standpoint, if we attach more significance to minor symptoms, many of our patients would not be wandering off to the quack rectal specialists, who may help the minor elements, but in problems of major degree, leave the patient with the disease and an empty pocketbook.

I believe the most frequent cause of the appearance of small amounts of blood is a break in the mucosa just at or within the anal orifice. Here we have a firm muscular canal which may clamp down on hard fecal material or upon small foreign bodies traumatizing a rather vascular and delicate mucosa or modified mucous membrane. This frequently leads to small superficial, single or multiple fissures which tend to heal. However, definite fissures of a chronic type may develop. Bleeding from such breaks in the mucosal wall usually results in streaking of the feces with blood. Many of these cases heal after attention to the bowels, a primary application of silver nitrate and later followed by the milder applications of ichthyol and olive oil. At other times, after thorough examination of the rectum and anus no cause for the bleeding can be found except for a rather congested state of the mucous membrane just above the muco-cutaneous junction. These cases clear up and the history of repeated bleeding stops after injections of 4% phenol in almond oil beneath the mucous membrane.

Small spurts of blood appearing after expelling the bowel contents is suggestive of hemorrhoidal bleeding. Unfortunately it is far too easy to prescribe an ointment or suppository for a patient who says he has some bleeding and makes the self-admitted diagnosis of hemorrhoids. However, unless a complete examination is made, we cannot assure ourselves that the patient has no other pathology of a severer nature lurking higher in the rectum, sigmoid or colon. If the source of bleeding is from the hemorrhoids and they are not too large, not protruding or ulcerative and not complicated by a fistula, injections of 1 to 3 cc. of 5% phenol in almond oil into the upper end of the hemorrhoidal mass above the muco-cutaneous line will result in cessation of bleeding and cure about 80% of the cases. Injection of external hemorrhoids is absolutely contraindicated.

Blood mixed with mucus, pus and feces is usually significant of ulcerated carcinoma or some form of colitis or dysentery. In such cases the blood may also be entirely independent of the stool. The darker the blood, the higher in the bowel is its source.

Visible blood seldom occurs in the stool from the region of the upper intestinal tract and usually exhibits itself as a chocolate black or a tarry coloration and many times only in the occult form.

Familiarity with the relationship of pain, bleeding, etc., will in many instances give one the probable diagnosis yet direct ocular inspection of the rectum and sigmoid is necessary in every case. Only recently this has been emphasized in my own experience. One case gave a typical history of a simple fissure with only a small amount of bleeding and some epigastric distress. The patient had a fissure, but about one week later when the fissure was not so tender and a complete proctoscopic examination was made, a malignant tumor was seen in the sigmoid. Exploratory laparotomy revealed metastases in the liver. Another case had a small amount of bleeding and a typical history of a thrombosed hemorrhoid. Further examination a week later revealed an adenomatous polyp about the size of a cherry situated five inches above the anal orifice. This was removed with the suction cautery through the proctoscope. This was quite important to this individual since polyps of the colon and rectum are very prone to become malignant.

Bleeding occurring from various types of ulcerations, strictures, polyposis, etc., can only be definitely determined by proctoscopic and x-ray examination. If the pathology is high in the colon, the blood is usually mixed with feces although at times large clots are passed. Bleeding in cases of intussusception and mesenteric thrombosis elicit a history or physical findings of an abdominal catastrophy.

Occult blood in the stools usually signifies bleeding from higher up in the gastric intestinal canal although it does not exclude its source being the colon. The test is only of definite value after exclusion from the diet of meats, fish, chicken, wine, and various medicines and purgatives. Both the guaiac and benzidine tests should be made as a positive guaiac is positive and negative guaiac is of little value while a negative benzidine is of value and a positive benzidine of relatively little value.

PROGNOSIS IN CANCER*

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For some years pathologists, following the lead of Broders, have attempted to grade malignancies on a histological basis. Broders(1) in 1920 reported the results of his studies of 537 squamous-cell epitheliomas of the lip, and graded the tumors 1 to 4, according to differentiation and mitosis. Broders stated that "the most important factor in squamous-cell epithelioma of the lip seems to be the degree of cellular activity." The scheme of grading was as follows: "If the epithelioma shows a marked tendency to differentiate, that is if about three-fourths of its structure is differentiated epithelium and one-fourth undifferentiated, it is graded 1; if the differentiated and undifferentiated epithelium are about equal, it is graded 2; if the undifferentiated epithelium forms about three-fourths and the differentiated about one-fourth, it is graded 3; if there is no tendency of the cells to differentiate, it is graded 4." In the tumors studied, 15.82 per cent were grade 1; 62.01 per cent, grade 2; 21.04 per cent, grade 3; and 1.11 per cent, grade 4. The known deaths from epithelium were as follows: none of grade 1; 54.90 per cent of grade 2; 84.21 per cent of grade 3; and 100 per cent of grade 4.

A year later Broders(2) extended to malignant neoplasia in general the principle that "the more an epithelioma tends to differentiate, the lower is the degree of malignancy." In this communication he recorded studies on 256 squamous-cell epitheliomas of the skin. and graded these tumors as he had those of the lip. "The known deaths from epithelioma were: Grade 1, 0; grade 2, 61.29 per cent; grade 3, 85.71 per cent; and grade 4, 100 per cent."

The two reports above mentioned were followed by a third(3), grading 473 epitheliomas of the genito-urinary organs according to the same scheme.

In 1928 Rankin and Broders(4) graded 598 carcinomas of the rectum. They found that the percentage of cases with metastases increased in proportion to the grade, and that the ultimate good results decreased in inverse proportion to the grade. They noted that grade 1, even with metastases, offered almost as good a prognosis as grades 3 and 4 without.

In other papers Broders(5)(6) has stressed the importance of grading malignancies, and has pointed out that the grade of the tumor can be used practically in determining the extent of operative procedure, and as a guide in prognosis. Other systems of grading carcinoma have been put forth. Of these, that of Martzbloff(7) has attracted much attention. Using the principle of cell differentiation, he divided carcinoma of the cervix into three groups—spinal cell, transitional cell, and fat spindle cell types. In the first group there were 47 per cent five-year cures, corresponding to Broders grade 2. In the transitional cell group there were 24.2 per cent five-year cures, corresponding to Broders grade 3. In the fat spindle cell group there were only 9.52 per cent five-year cures, corresponding to Broders grade 4.

Cancer of the breast has been divided into four groups on the basis of cell differentiation by Greenough(8). In his group 1 with much differentiation there were 66 per cent cures; in group 2 there were moderate differentiation and 47 per cent cures; group 3 with slight differentiation had 23 per cent cures; in group 4 with almost no differentiation there were no cures.

A more elaborate attempt at grading carcinoma was made by Hueper(9). He studied 122 carcinomas of the cervix uteri and attempted to determine their histologic malignancy by evaluating the following twenty factors: special type cell, nucleocytoplasm coefficient, irregularity in size and shape of cell, distinctness in outline of cells, chromatism of cytoplasm, functional activity of cells, irregularity in size and shape of nuclei, chromatism and hyperchromatism of nuclei, number of mitoses and prophases, irregularity of mitoses, number of pencil cells, infiltrative growth of cells, general type of carcinoma, cheracter and vascularity of stroma, type and amount of cellular infiltration of stroma. On the basis of his histologic observations he worked out a "histologic malignogram." He assigned numerical values to the different factors and called the sum of the numerical values "the histologic malignancy index." The higher the index, the worse the prognosis. The numbers of the index ranged from 10 to 40. All patients with an index over 30 died, regardless of clinical extension and type of cell present.

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OPPOSITION TO GRADING MALIGNANCIES

The reliability of a diagnosis based on histology, as developed in the above cited communications and others during the past decade, has been seriously questioned, however. Reimann(10) studied 100 consecutive carcinomas of the breast, grading them according to their relative apparent malignancy, and then compared the prognoses with the actual outcome as disclosed by follow up records. He was correct in 50 per cent of the cases. He mixed the slides from patients dead from carcinoma with an equal number still alive, and attempted to tell which was which. He was correct in 54 per cent of his selections. He submitted the material to four other experienced pathologists of Philadelphia, and they were correct in 57 per cent of the cases. He concludes that "it is futile to attempt to decide, from an examination of a section of a tumor, what will happen to a patient with cancer," and that "the grading of a tumor for the individual patient is impossible at present."

Plaut(11), in a General Review of the subject of Histologic Pictures and Prognosis, concluded that "Histologic prognosis can be a great help to the physician if he is always aware of of its limitations. There may be disappointment sooner or later when prognoses are made from microscopic slide examination according to standardized rules. Only the most careful study of individual cases can avail us in the presence of the manifold histologic and clinical phases of malignant tumors."

The foregoing paragraphs will serve to show that attempts at histologic prognosis are becoming numerous and are influencing physicians in their attitude toward individual patients. This tendency to consider the microscopical picture is laudable, but there is a tendency to overestimate the importance of this one factor and to overlook the importance of other quite evident findings. I do not believe that any one criterion should furnish a basis for prognosis in cancer, and shall briefly consider the factors to be considered collectively in giving a prognosis in an individual case:

1. Age: In general, clinical experience teaches that carcinoma in a person under 30 years of age is more malignant than later, and that cancer in the aged is apt to be less rapidly fatal. It is quite difficult, as MacCarty(12) points out, to evaluate this factor alone, as in each case you have to deal with such other factors as location, duration, size and fixation of growth, the presence of metastases, and the condition of hearts, lungs and kidneys. There are so many exceptions to the general rule that one hesitates to attach much importance to age alone. MacCarty mentions patients under 30 years of age with cancer of the breast, rectum and ovary who lived over 20 years after radical treatment.

2. Loss of Weight: This finding is significant, and if combined with other factors, presages a bad outcome. Sometimes the reason is evident, as in carcinoma of the esophagus with its mechanical obstruction and starvation. The quality and quantity of food may be deficient. Pain and worry may cause a distaste for food, with a very low voluntary caloric intake. Infection in the tumor tissue may be responsible for poisons whose absorption cause fever with destruction of proteins. There is no satisfactory evidence that cancer cells secrete any specific toxin causing cachexia. Emaciation may appear early or late, with or without anemia, and is preceded by muscular weakness. MacCarty(12) places loss of weight tenth in order of clinical importance in his fifteen factors to be considered in giving a prognosis in cancer.

3. Duration of Disease: Because of the unreliability of this portion of a history, this factor taken alone is of little value. Some tumors, such as carcinomata of the stomach, may have very short histories. Usually it is impossible to determine accurately the duration of the actual malignant growth, and MacCarty(12) considers it the least important factor.

4. Site of Growth: Those malignancies on the surface of the body manifest themselves early

and offer the best prognosis because more readily accessible to treatment. In a study of 3,778 cancers of the large bowel, breast and and stomach, MacCarty(12) found the average size of carcinoma of the breast, which produces an easily recognizable mass, was 3.2 cm., while carcinoma of the hepatic flexure of the colon averaged 8.94 cm.

5. Metastases: This is probably the most important factor to be considered. One must study each case individually and must keep in mind the tendencies of each type of tumor. The more malignant cancers of the breast rarely fail to involve the regional nodes after a few months, while Ewing(13) records a mucoid cancer of the breast of ten years duration without lymph node involvement. Epithelioma of the tongue and tonsil invade the nodes early and consistently, while a similar growth of the lower lip more slowly metastasizes, but quite surely will involve the cervical nodes. The regional metastases of carcinoma of the esophagus are well known. The regional extension of cancer of the cervix uteri contrasts with the more distant growths to be anticipated in an adenocarcinoma of the same region. A diagnosis of polypoid adenocarcinoma of the fundus uteri does not carry the threat of an ulcerating epithelioma of the cervix uteri, because of its later extension. Widespread dissemination of the tumor is to be anticipated whenever the diagnosis of melanoma is made. The presence or absence of metastases is of such clinical importance that it governs operative procedure and oftentimes classifies patients into operable and inoperable groups.

6. Fixation of Growth: If the growth is fixed to the surrounding tissue the outlook is usually bad. The induration is due to fibrous tissue response to the presence of the cancer, and is harder than mere inflammatory infiltration. The more the fixation, the greater the immediate operative risk and the more likelihood of recurrence.

7. Size of Growth: For years MacCarty had paid attention to the size of tumor of different sites. His dictum concerning the probable malignancy of a gastric ulcer over 2.5 cm. in diameter is well known. The larger the tumor mass, the greater the probability of metastases and the worse the prognosis.

8. Histology: This phase has been considered partially above. In some cases the microscopic picture may outweigh in importance all other factors. Usually, however, clinical data greatly influence the interpretation. The differentiation of tumor cells forms the basis of the above methods of grading, but there are other histologic criteria. For years MacCarty has called attention to the importance of lymphocytic infiltration, fibrosis and hyalinization as evidence of resistance and indicative of better prognosis. One must remember that the histologic picture indicates growth capacity only, and the clinical course does not always agree with this picture. It is the potential malignancy only which is measured by histologic criteria. One must always keep in mind the individual tumor under consideration, since some of the most malignant-appearing tumors from the histologic standpoint, such as the congenital sarcoma of the kidney and sarcoma of the skin, have low growth capacities. One must distinguish embryonal from anaplastic quantities and must know the history and origin of many tumors to properly prognose.

9. Direction of Growth: Infiltrative growth is characteristic of malignancy, and those tumors which tend to infiltrate the wall of a tube such as the bowel are more malignant than large polypoid masses projecting into the lumen and ulcerating early. The former type grows through to the surface of the organ and involves adjacent organs, while it metastasizes early.

10. General Physical Condition: A patient with cancer is to be regarded primarily as a sick individual. The tumor is a disease and the whole individual must be treated. If the heart, lungs and kidneys are abnormal, the prognosis as to life is thereby influenced. The cardiovasculorenal factor is an extra hazard for the older patient, although the tumor may be histologically less malignant.

Anemia is a common finding in cancer, while absent in benign tumors. Emaciation may or may not be accompanied by anemia. Hemorrhages or toxins from infection or destruction of tissue may cause the anemia. The anemia is usually of the secondary type, although it may be the most prominent clinical sign and simulate the pernicious form. Starvation may be the cause. Commonly leucocytosis is also present. The greater the anemia, the greater the operative risk. After surgical intervention, regeneration of the blood is slower than after operation for other surgical conditions, and the hemoglobin usually does not return to the pre-operative level.

Both albuminuria and ketonuria occur in cachexia and indicate an advanced stage of the disease.

11. Type of Treatment Secured: This may be an extraneous factor, but it is extremely impor-

tant. Diagnosis and treatment of cancer is becoming a very complicated procedure, demanding great skill and expensive equipment. It makes a great deal of difference to the individual patient whether he consults a physician who sees few cancers and has no special interest in such conditions, or whether he falls into the hands of a man with a wide experience in treating malignancies and who is especially interested in cancer. A recognition of this fact led to a recent survey of the United States to determine the medical service available to the cancer patient. This survey was made by a committee composed of Ewing, Greenough and Gerster, representing the American Society for the Control of Cancer(15). They concluded that the difficulties of accurate diagnosis and the complexities of modern treatment required special training for those who treat cancer patients. They recommended better organization of cancer service in the United States, and advised the establishment of a limited number of large cancer institutes fully equipped for diagnosis, treatment, research and education. In addition, special cancer hospitals and the organization of cancer services in general hospitals are advised.

One of the glaring faults in the proper handling of malignancies has been the tendency to entrust the diagnosis of tumors to pathologists of no training, or to technicians. The above mentioned committee points out that deficiencies in the laboratory diagnosis is one of the most serious obstacles in the way of efficient service and recommend efforts to increase the efficiency of pathologists. Wood(16), in a recent article on the diagnosis of cancer, stresses the value of training pathologists for this work.

In a recent article on Prognosis in Cancer such a skilled observer as MacCarty(12), with an enormous material, states: "I think it may be said that any system of microscopic grading of cancer should not alone be of accurate clinical value without taking many other factors into consideration." He lists the factors to be considered in the approximate order of their clinical importance as follows: The presence or absence of glandular involvement and distant metastases, fixation of growth, location, renal and cardiac efficiency, anemia, size of growth, age, direction of growth, loss of weight, cellular differentiation, lymphocytic infiltration, fibrosis, hyalinization and duration of disease.

BIBLIOGRAPHY

1. Broders, A. C.: Squamous-Cell Epithelioma of the Lip, J. A. M. A., 74:656 (Mar. 6), 1920.
2. Broders, A. C.: Squamous-Cell Epithelioma of the Skin, Am. Surg., 73:142.
3. Broders, A. C.: Epithelioma of the Genito-Urinary Organs, Am. Surg., 75-574.
4. Rankin, F. W., and Broders, A. C.: Factors Influencing Prognosis in Carcinoma of the Rectum, Surg. Gyn. & Obs., 46:660.
5. Broders, A. C.: Carcinoma Grading and Practical Application, Arc. Path. and Lab. Med., 2:376.
6. Broders, A. C.: The Grading of Carcinoma, Minn. Med., 8:726.
7. Martzloff, K. H.: Carcinoma of the Cervix Uteri: A Pathological and Clinical Study With Particular Reference to the Relative Malignancy of the Neoplastic Process as Indicated by the Predominant Type of Cancer Cell, Bull. Johns Hopkins Hosp., 34:141.
8. Greenough, R. B.: Varying Degrees of Malignancy in Cancer of the Breast, J. Can. Res., 9:453, 1925.
9. Hueper, W. C.: Carcinoma of the Uterine Cervix; Their Histologic Structure, Malignancy and Prognosis, Arch. Path. 6:1065, (Dec.), 1928.
10. Reimann, S. P.: The Issues at Stake in the Grading of Tumors, Arch. Path. 8:803, (Nov.) 1929.
11. Plaut, A.: The Relation Between the Histologic Picture and Prognosis of Tumors, Arch. Path. and Lab. Med., 3:240 (1927).
12. MacCarty, W. C.: Principles of Prognosis in Cancer, J. A. M. A. 96:30, (Jan. 3) 1931.

Etc., etc., etc.

A PRACTICAL PROGRAM IN CANCER PUBLICITY*

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New York, N. Y.

Cancer ranks second as a cause of death in the United States. Because of this it must receive the thoughtful attention of those interested in the large questions of public health, as well as those specifically concerned with the cancer problem itself.

The need for public education is generally admitted. It is agreed that the chief handicap in the treatment of cancer still lies in the fact that a large percentage of patients are not seen by the physician until the disease is advanced. It has been estimated that there are 25,000 cancer cases in New York City at all times, of which one-third are early cancers. What the public does not realize and what must be brought to its attention is that a considerable proportion of these early cancers could be easily diagnosed and a large number cured, if seen and treated without delay.

For instance, Dr. Joseph Colt Bloodgood of Johns Hopkins Hospital, has said that fully 75 per cent of cases of cancer of the breast could be cured if diagnosed early and treated promptly and properly. Under similar ideal circumstances, almost all early cases of the larynx could be cured, according to Dr. John E. MacKenty of the Manhattan Eye, Ear, Nose, and Throat Hospital, New York; of cases of skin cancer, more than 90 per cent, according to Dr. George H. Semken, surgeon at The Knickerbocker Hospital, New York; of cases of cancer of the lip, 85 per cent, according to Dr. Bloodgood; and of cases of cancer of the cervix, 65 per cent, according to Dr. William P. Healy of the Memorial Hospital, New York.

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*Reprinted from Hospital Social Service, XXIV, 1931, 215.

The situation has been admirably outlined by Dr. Shirley W. Wynne, Commissioner of Health of the City of New York, which in 1930 showed the highest death rate and the highest case rate recorded for cancer in its history.

"Medical science," he said, "has proved that often, when cancer can be recognized at the very start and treated before it has a chance to spread from its original location, the disease can be eradicated. Research has further brought to light a number of factors which, while they do not constitute the fundamental cause of the disease, nevertheless play a part in bringing it about. In view of these facts, all suspected cases of cancer demand an immediate examination by a qualified physician and all conditions which are known to lead to the development of the disease should be effectively dealt with. A public well informed regarding the known symptoms of cancer is one of the most effective weapons to combat the disease. Public realization of the necessity for taking these steps should make it possible to reduce the death toll due to cancer, a toll which now shows a slight but steady increase from year to year. All over the world scientists are trying to discover the ultimate cause of cancer with a view to conquering this dread foe of mankind. Some Pasteur of the future, we hope, will one day solve these matters. Meanwhile the general public can do no less in the cause of health than make the most of what is already known. Cancer is a public health problem and should be treated as such."

In an address before the Minnesota Medical Association in March. 1921, Dr. Frederick L. Hoffman said: "When the Society for the Control of Cancer was formed, it was clearly realized that the main objective of its propaganda should be to arouse the general public to the menace of cancer increase and the hopeful effects of early diagnosis and surgical treatment in the early stages of the disease. For this reason it was decided not to call the society one for the prevention, but rather for the control of cancer. In other words, the aim of the society is to bring about a reduction in the death rate from cancer as the results of early methods of treatment, whether surgical or otherwise. Nothing of value is known at the present time that would justify the belief that cancerous processes can be prevented; but the knowledge of pre-cancerous conditions leads to earlier diagnosis and treatment at a stage when the prognosis is generally quite favorable.

"Regardless of what the society has done, and it has done much, there has not as yet been a marked effect on the cancer death rate. In some localities where the campaign has been most effective the rate has unquestionably declined, on account of cases coming earlier to operation. But, in a general way, it may be said that the vast majority of cancer operations still take place when the disease has reached an inoperable condition. Cancer is not only one of the most important causes of death, but the disease is increasing from year to year in practically all civilized countries.

"The control of the cancer death rate is primarily a surgical question, for unless the offending mass of cancerous tissue is promptly removed in the early stage of the disease, death is a foregone conclusion. It would be as sensible to argue against a propaganda which will increase early surgical operation. There is the utmost urgency that the number of early operations should be very considerably increased as a first step in a satisfactory solution of the problem of cancer education."(1)

The American Society for the Control of Cancer recognizes the need to encourage local organizations for carrying on public education, for stimulating the provision of adequate facilities for diagnosis and treatment, and for informing the cancer patient as to what facilities are available. In the Metropolitan area the New York City Cancer Committee, the local branch of the Society, during the more than four years of its existence, has devoted itself to bringing the known facts about the disease to the attention of the public. The methods used for accomplishing this may possibly serve as a basis upon which other local committees can model their own activities with changes necessary to suit their own needs and such conditions as may be peculiar to the localities they serve. This lay educational campaign has received the hearty approval of medical societies of health departments and of an interested laity. In the *Journal of the American Medical*

Association (November 1, 1930), Bevan(2) said: "I am thoroughly converted to the position that the campaign of education that is being carried on by the Society for the Control of Cancer and by the profession as a whole is leading to earlier diagnosis and more cures, and should receive the support of the entire profession."

At the fourth annual dinner of the New York City Cancer Committee in October, 1930, the following message from Mme. Curie was read:

"From what I hear from my friends in the medical profession there is much to be done in the field of research regarding cancer. But I agree with the object of your society that what is known can be of great benefit if the public are taught the facts."

At the same dinner, Dr. Francis Carter Wood, director of the Institute of Cancer Research for Columbia University, and editor of the *American Journal of Cancer,* said:

"The work of the New York City Cancer Committee demonstrates that popular education on cancer has definitely improved a desperate situation by bringing many patients to the physicians in a stage in which the disease is curable by proper treatment. That the campaign has also made a certain number of persons nervous is also true, but it is better to be nervous than to die of cancer. Nerves can be cured. A physician said to me one day, 'Your campaign is making people very nervous. I had four frightened people in my office this morning.' I said: 'How many of these had cancer?' and he said 'two'. I asked whether they were early cases and he said 'yes.' I said 'then you had a chance to cure four people; two of nerves and two of cancer.' This is the answer to the criticism that education produces cancer hysteria."

Dr. Matthias Nicoll, Commissioner of Health of Westchester County, New York, and formerly State Health Commissioner, in a letter to Dr. H. R. Charlton, Chairman of the Westchester Committee, a sub-committee of the New York City Cancer Committee, said: "It is a great pleasure for me to endorse the work of your committee. If any important progress is to be made in saving lives and ameliorating unnecessary suffering from cancer, it must be along the lines which your committee has so wisely determined to follow.

"The mental, physical and economic suffering which is being caused by premature and unfounded reports of alleged specific cures, is placing most regrettable obstacles in the lines of progress. Nothing but public health education can serve to remove them, by inculcating in the minds of the medical profession and the public the fact that we cannot afford to wait for the discovery of the actual causes of cancer and specific methods of prevention in view of the constantly increasing ravages of the disease; but that we now have very efficient means in a great number of communities for discovering early cancer and destroying its growth, and—not less important—for ameliorating suffering to a very great degree in hopeless cases.

"Finally, I heartily endorse the intention of your committee to make provision within Westchester county for cases of cancer which cannot be taken care of in private hospitals or in their homes. This department will cooperate in every way possible."

In addition this work of public education has been endorsed by newspaper and magazine editors, who truly reflect public opinion and by advertising executives, who must know what the public will accept, and who have shown an attitude of increasing cooperation. Whereas in 1927, editors and advertising managers were merely kindly disposed toward the committee, but a bit fearful lest the public react antagonistically to such lay education, in 1930 they gave without hesitation three times as much space in which to broadcast important cancer information—the message that cancer is curable in many cases if diagnosed early and treated properly and promptly.

Now and again a discordant note is struck. One newspaper, for example, saw fit to criticize the committee bitterly on the ground that its campaign of public education has served to create needless worry and fear among many thousands. Such editorials do harm. They obtain statements which are incorrect. They may cause a number of their readers, who have symptoms of cancer and would ordinarily visit their family physicians or go to clinics, to do nothing. It would be tragic, indeed, if any person with an early cancer were deterred from seeking medical advice as a direct result of this editorial. Of course, such a person would eventually have to go to a doctor, when the case was far advanced and probably hopeless.

The committee attempts to combat such criticisms by carefully prepared statements by members of the medical profession, though it is impossible for the latter to be as didactic as the less well-informed journalist.

Everything in medicine is relative. Because of this it is difficult to give to the lay person a simple and accurate exposition of facts regarding the disease. A statement which might be accurate in 90 per cent of cases might be misleading in the remaining 10 per cent.

Briefly, it may be stated that there are three ways of handling the cancer problem. These have been defined by Dr. John C. A. Gerster, Chairman of the New York City Cancer Committee, as follows:

I. CLINICAL

II. RESEARCH

III. EDUCATION

I. *Clinical.* Physicians, both in hospitals and in their private practice must recognize cancer when it is early. To make a diagnosis in cancer may require:

1. An alert medical practitioner—the family physician.

2. A surgeon.

3. A roentgenologist with adequate facilities for x-ray diagnosis and treatment.

4. A pathologist to examine the tissue, upon whose findings depends the extent and nature of the operation, or the type of radiotherapy to be employed.

It is evident that a highly specialized group is necessary for the proper care of the cancer patient. Whether this group works in its own clinic or in a hospital, the essential factors of team work remain the same.

The hospitals may be either general hospitals in which cancer cases are accepted among other surgical conditions, or special hospitals where only patients with cancer or those suspected of having cancer are received. Lastly, there is a special class of cancer homes, where the hopelessly advanced patients are cared for and made as comfortable as medical science permits.

The outstanding institution of this type in the Metropolitan area in the Rosary Hill Home at Hawthorne, Westchester county, New York. This is the outgrowth of the work of Mother Alphonsa Lathrop, begun in the lower part of New York, and is maintained by the Servants of Relief for Incurable Cancer.

II. *Research.* In laboratories all over the world men and women are devoting a lifetime of patient, untiring, painstaking thought and effort to the solution of the cancer problem, in many cases with insufficient equipment. Research may uncover something of definite practical value tomorrow or fifty years hence. No one knows. It is poorly endowed, although it merits the most generous public support, local, national and international.

III. *Education.* While this careful research into the cause of cancer is being carried on, thousands of people are dying from the disease, losing through delay, due most often to ignorance, their only chance of escape. The problem of educating the public is to find means for presenting proper aspects of the problem for lay consideration. This consists—

1. In teaching the accepted facts regarding cancer and the importance of early diagnosis and prompt and proper treatment. In other words, how an individual can safeguard himself as far as at present possible.

2. In controverting certain widespread misconceptions about cancer, for example, the belief that cancer is incurable; that it is a constitutional blood disease; that it is hopeless from the start; that it is transmitted from parent to child; that it is the result of any known form of diet—to mention only a few.

3. In presenting a comprehensive outline of the entire subject as regards the education of the individual.

The information given out by the New York City Cancer Committee has, generally speaking, been simple. A series of cartoons sub-consciously suggesting health needs has been widely used. Attention has been called to the following list of early signs:

Any lump, especially in the breast.

Any sore that does not heal, particularly on the face or in the mouth.

Any unusual discharge or bleeding.

Continued indigestion.

It has been impressed upon the public that any of these symptoms must be brought promptly to the attention of a physician, because the disease if recognized in time can often be cured by one of the two approved methods—surgery or radiation with either x-ray or radium, the method to be used depending on the region of the body involved and the type of growth.

Warnings are given against the adoption of methods of treatment which cannot be expected to cure the disease, and the trying of quack remedies which do great harm by delaying recourse to proper treatment.

Every available means are used for giving this information to the public. including newspapers, magazines, car cards, billboards, lectures, radio, motion pictures, pamphlets. and exhibits.

That all the various forms of publicity are effective has been proved by the statements of those who come to the office for information. During the last educational campaign a record was kept as far as possible of how applicants had learned of the information bureau. The results were as follows.

Magazines	191
Posters	181
Car cards	67
Newspapers	50
Radio talks	36
Pamphlets	26
Exhibits	9
Motion pictures	6

The records over a period of four years show a constant increase in the number of persons coming to the office of the committee for information and advice. This is perhaps the surest index of success, as regards the effectiveness of the lay educational campaign. During the first year 615 persons came to the office, or communicated by letter or by telephone. In 1930, the number was 2,438. These do not include the undoubtedly large number who have followed the advice to go directly to their family physicians.

In the Standard and Mercury, a newspaper of New Bedford, Massachusetts. of April 22, 1929, an interesting statement was made:

"The value of newspaper publicity in the field of public health is strikingly shown by the figures relating to attendance at the state cancer clinics. In analyzing the reasons that prompted persons to submit themselves for examination, it was found that the most important factor was the press. In the state as a whole 45.2 per cent of those who reported to a clinic were led to do so by what they had read in the papers, against 26.8 per cent who were sent by physicians and 15.1 per cent who were persuaded by friends. In New Bedford the percentages for newspapers, doctors. and friends were 56.8, 21.1 and 12.1 respectively.

"These figures effectually answer those who argued that the publicity given to the fight against cancer does no good, but on the contrary does much harm by frightening people with obscure ailments. In New Bedford 22.5 per cent of those attending were found to be suffering with cancer. The remainder, 77.5 per cent, has the satisfaction of learning that they did not have a justly dreaded disease. Over half of those found to have cancer have a chance for a cure. If they are cured, the clinic has accomplished a wonderful thing, and in bringing this about intelligent newspaper publicity has been an important factor. Without it the results could have been nowhere near so satisfactory."

Some of the other activities of the committee may be worthy of note. It has for four years conducted an intensive publicity campaign during the first week of November, at the same time making an appeal for funds with which to continue the work during the year. Special efforts are made during this week. Lectures are given to various organizations throughout the city and a public meeting is held at the Academy of Medicine. Bulletins of information are furnished to the press. Posters are placed in stores, factories, etc. Exhibits are arranged. In 1930, Mayor Walker of New York issued a proclamation, making it officially Cancer Week. In 1930, also, through the cooperation of Dr. William J. O'Shea, Superintendent of Schools. and of the Rev. William R. Kelly of the Catholic School Board, 750,000 copies of a carefully prepared pamphlet were distributed at this time to the pupils in the public and parochial schools in Manhattan, Bronx, Queens and Richmond Boroughs. In this way the message was carried directly into many homes which might not otherwise have been reached. This pamphlet, with the title "By the Way", consists of a series of colored cartoons bringing home in a striking manner the need for periodic health examinations as a means for controlling cancer as well as other diseases. Other pamphlets furnished by the society to the local organization are distributed to those asking for more specific information.

A special exhibit has been prepared from the series of health cartoons referred to. This has been seen, it is estimated, by at least half a million persons, through the generous cooperation of the owners of empty stores who have given permission for its display. So far it has been shown in windows of the former Bonwit Teller store on Fifth Avenue, of a store belonging and next to the new Empire State Building, and of others at 700 Sixth Avenue, owned by B. McCreery Realty Corporation, and at the corner of Broadway and 57th Street, belonging to the Willys-Knight Company, all very busy centers. It has also been exhibited at the Home Making Center, Grand Central Palace and at present is displayed at the Health Educational Hall of The Museum of Natural History.

In connection with the exhibit a temporary information office is set up when possible in charge of a member of the staff, who interviews visitors and distributes pamphlets.

THE VALUE OF ADVERTISING

All the advertising space used, whether in the pages of magazines or in the form of time on the air, or car cards or posters. is donated. It has been estimated by one of the largest advertising agencies in the city that more than $1,250,000 worth of space was donated in 1930. The growth of the committee's activities in this respect has been spectacular. Old friends have stood by us during this period, offering more space each year and contributing helpful suggestions; many new friends have been acquired. The newspapers have aided our educational work in every possible way and have proved to be among the most effective mediums for carrying the message.

It is difficult. even impossible. to estimate the value of each form of advertising used. The reiteration of the message in many ways ultimately makes an impression on the mind. A person may first notice an outdoor poster and later a car card, and last read an article in a newspaper or magazine on the subject of cancer. It makes no difference which has been seen first, all combine to make the impression deeper and stronger.

Practical business men know this from experience, otherwise they would not spend millions of dollars annually in each form of advertising. It has been proved that when advertising is curtailed the business falls off proportionately. We realize that for us to attempt statistical analyses of the value of one medium against another would be sheer nonsense and a waste of time and money. There are statistical bureaus that furnish estimates of the comparative values of advertising media, and it seems to be the general conclusion that every form is valuable and that the cost is justified in every instance, because advertising sells the product whether it is corn flakes or health—the problem of attracting public attention is the same. There are people who respond to a message from car card advertising and outdoor billboard posters, even though they are not conscious of being influenced, others respond more readily to advertisements in the press and magazines, or the radio appeal. It is the constant and consistent use of all sorts of advertising that sells the idea in the end.

One of the largest advertising firms in the world, Batten, Barton, Durstine and Osborn Company, endorses our advertising and publicity work. They say that it takes two years of constant advertising to sell any product. and that during these two years the advertiser must use every advertising medium all the time. After that he must cntinue to advertise so that the public will not forget. Unfortunately our advertising friends cannot give us free space all the year round, and we notice that when advertising of any form is reduced public interest is not so keen.

As advertising has taught us in many ways how to care for our health, our eyesight and our teeth, as it has endorsed foods, and as it has interested us in travel and in savings, so it is also being effective as a means of public education in cancer.

REFERENCES

1. Hoffman, F. L., Minnesota Medicine, March, 1921.
2. Bevan, Arthur D., Jour. Am. Med. Assn., Nov. 1, 1930.

CANCER OF BREAST

Hugh H. Trout and C. H. Peterson, Roanoke, Va. (*Journal A. M. A.*, Nov. 1, 1930), analyzed 341 cases of histologically proved carcinoma of the breast, all having had a Halsted radical operation. This series he divided into three groups as follows: 1. From 1909 to 1920 there were 152 cases, and in this series only the radical operation, as advocated by Halsted, was done. At the end of five years, thirty-two, or 22 per cent, of the patients were alive and apparently free from recurrences or metastases. 2. Starting in 1920, they began the placing of tubes containing radium in the field of operation and under the skin after the radical removal of the breast. They continued this method until 1924, and during this period there were eighty cases. Twenty-four, or 30 per cent, of these patients were alive and without recurrences after five years. 3. In 1924 they started the practice of adding high voltage roentgen exposures to the radical operation with the implantation of radium as previously mentioned. In this group there were 109 cases, only 18 of which have had their operations longer than five years. Ten, or 55 per cent, of these patients are alive and as yet without recurrences. From a follow up of their cases, they find that the results have improved since the employment of postoperative irradiation, but they do not feel that such improvement is entirely due to the irradiation but rather to cancer education. However, they feel that postoperative irradiation is of distinct value and should be employed as a routine. They have seen no ill effects from postoperative irradiation, though they realize that unless a surgeon is careful he may relax in the thoroughness with which he does a radical excision, hoping that such irradiation will perhaps compensate for his dereliction. They believe that the placing of tubes of radium under the skin at operation followed by sufficient and properly directed roentgen treatment is the best manner of giving postoperative irradiation. Not enough time has elapsed to estimate the results of the newer roentgen treatment, but there are many indications that with the methods now in vogue the beneficial results of postoperative irradiation will be more definite. It has never been proved that properly given postoperative irradiation is harmful; it is generally believed that irradiation is helpful in other parts of the body, and 89 per cent of the surgeons and 97 per cent of the radiologists who replied to a questionnaire assume that postoperative irradiation is beneficial as the adjunct to surgical treatment of carcinoma of the breast. Therefore Trout and Peterson believe that the patient should be given the benefit of postoperative irradiation as a routine.

THE CONSERVATION OF HUMAN LIFE—MALIGNANT DISEASE

There is probably no problem before the race of mankind that is more serious than malignant disease. When we sit down and seriously consider the situation we realize that the problems of the moment, such as the financial depression and social unrest, are really not such great problems by comparison. Financial depressions tend to right themselves but the march of malignant disease is straight ahead.

We know many facts about this condition and have been able to improve our results in its treatment, but still other facts continue to escape us leaving us woefully weak in our defense against this invader.

The fact of paramount importance that we do know is that our best chance to aid our patients is by early recognition of the pre-malignant or beginning malignant condition. At this time our percentage of cures should be very high.

Much has been accomplished by the teaching of the public that they should come to their physician with every suspicious lesion. This should continue to be stressed. Too many people still hang back from an examination dreading to hear the word. "Cancer." But these must be taught that early recognition is their salvation.

In closing let me make the following plea: Let us use the vaginal speculum and examine the cervix of every women over thirty that consults us when there is any possibility that cervical disease exists, and secondly, let us not figure that we have given a patient a square deal that consults us for a physical examination until a careful rectal examination has been made.

Cancer can be cured before metastasis has taken place.

—Charles A. Mobley, Pres.,
South Carolina Medical Society.

PEPTIC ULCER

The present status of 1,224 cases admitted to the medical services of the Presbyterian Hospital between 1912 and 1927 is reported by Ralph C. Brown, Chicago (*Journal A. M. A.*, Oct. 18, 1930). Of the 1,230 cases treated medically (94 having been referred to surgery), 49.5 per cent are reported cured, 16.7 per cent satisfactorily improved, a total of 66 per cent of cases in which a good medical result was obtained. An additional 10 per cent report moderate improvement. In 20 per cent, medical measures failed. Approximately 20 per cent of patients with gastric and duodenal ulcers now being admitted to hospitals require surgical care. Because of the lack of basic knowledge regarding the etiology of ulcer, the inability of physicians to insure an ulcer-bearing individual against recurrence constitutes the most serious problem to be faced. Brown says that in many of the "poor result" cases in this series the replies to the questionnaire show that the patient had abandoned all but very sketchy measures of treatment soon after leaving the hospital, content with the temporary benefit secured. To meet this phase of the problem a special outpatient ulcer clinic is being established in charge of an assistant who will endeavor to maintain contact with each patient at stated intervals for at least a year after discharge from the hospital, checking up the details of treatment and the progress of the cases in much the same manner as is done in well organized diabetic clinics. This may be done without cost to the patient and is essentially an educational part of the treatment of ulcer. The tuberculous, the nephritic and the diabetic patients are carefully instructed as to diet, sleep and exercise, as to the use of alcohol and tobacco, and as to the danger of harboring foci of infection. The individual who for years has been the victim of recurrent peptic ulcer would seem to be in equal need of similar personal instruction and supervision.

FIGHT CANCER
WITH KNOWLEDGE

FIGHT CANCER
WITH KNOWLEDGE

A grave responsibility rests upon the family physician

IT IS HIS DUTY:

To keep abreast of progress in cancer research and clinical experience.

To warn his patients of the early symptoms of cancer.

To insist upon periodic health examinations which will lead to the correction of precancerous conditions and the detection of early cancers.

"Cancer is today the outstanding problem in medicine and public health; it threatens the ascendency of all other causes of death . . . education both of the medical profession and of the public is the most essential part of the present active campaign for the prevention and cure of cancer."

(William H. Welch, M. D., in Cancer: International Contributions to the Study of Cancer in honor of James Ewing. Philadelphia, 1931.)

The New York City Cancer Committee

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If not a resident of New York City—write to the

American Society for the Control of Cancer

New York, N. Y.

In greater New York we will gladly furnish qualified speakers to groups of thirty or more. Do your share in helping to arrange for a talk. Pamphlets will be furnished for free distribution on request.

The Nebraska State Medical Journal

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A CANCER NUMBER

This number is largely devoted to different phases of the cancer problem. The general subject of Cancer is of such tremendous importance that it seems a small contribution to devote one number largely to the subject, in the hope that all of us might be aroused to greater effort in the early detection of cancer, in which lies our only hope. This can hardly be called a symposium—perhaps conglomeration would better express the collection of articles, but if it adds one iota to our interest and knowledge it will be worth the effort.

—The Editor.

CANCER

Cancer mortality figures for the first six months of 1931 are "anything but encouraging," according to the Statistical Bulletin of the Metropolitan Life Insurance Company for August. Among its industrial policy holders the cumulative death rate for this disease has increased from 77.0 per 100,000 during the first half of 1930 to 83.1 for the corresponding period this year, a rise of nearly 8 per cent, the company's statisticians report. 125,000 people die of cancer in the United States in a year.

"Unless the situation takes a distinct turn for the better during the rest of the year," the bulletin says, "1931 will not only set a new high death rate for this disease but will register a larger year-to-year increase than has yet been observed. We have learned to expect a small rise every year in the cancer death rate. But nothing in the mortality experience of the last two decades gives basis for the expectation of as large an increase, in any one year, as we have experienced in the first six months of 1931."

"Unfortunately, mortality data for the general population in 1931 are extremely scanty, and it is impossible to determine definitely, at this writing, what has happened with respect to cancer mortality in the country as a whole. Nevertheless, such facts as are available indicate a larger rise than usual in the cancer death rate. This is true particularly in two large states, New York and New Jersey. While scattered data for the general population do not point to as pronounced a rise as shown for the insured, they do indicate that the cancer situation this year is even more serious than usual."

Dr. Pinto, Omaha's Health Commissioner, reports that death from cancer is positively on the increase in Omaha, and Dr. Bartholomew's figures for the state, briefly given, are of the same import. The Nebraska State Bureau of Health, Division of Vital Statistics, reports the number of deaths from cancer in the state as next below that of heart disease, the highest rate. For 1930 there were 1438 deaths from cancer, a rate of 108.2 per 1,000 deaths, a gain since 1926 when the rate was 94.7 per 1,000 deaths.

All vertebrates suffer from cancer as does man, and in reality all we really know about cancer outside of its purely clinical manifestations, its gross and microscopical findings, is what has been learned from animal experimentation.

It is interesting to know that "cancer is undoubtedly a universal disease in multicellular organisms." Gideon Wells tells us (*American Journal of Cancer*, September, 1931), "It has been found in almost all species of animals." Many old dogs die of cancer. I have owned dogs of both sexes that have died of cancer, the females most often of cancer of the breast, the male of cancer of the anus or rectum. Cancer has a predilection for development in certain animals. The idea of local irritation tending towards the location of the origin of cancer does not always apply. For instance, milk cows do not have cancer of the breast, mares do, and many other examples might be given. Cancer of the stomach so common in man is very rare in animals, never found in the dog; cancer of the cervix uteri, so common in women, is quite rare in animals, etc.

There is no question but that there is a strong hereditary influence upon the occurrence of cancer in animals; Maud Slye's experiments prove this. Cancer also can be produced in animals by long continued irritation as by tar repeatedly rubbed on the ear of a rabbit. as was first proven by Japanese pathologists.

Both of these methods as now interpreted by those of most experience in the study of the cancer problem indicate that cancer in man is in certain individuals or families more or less recessive (Mendelian Theory). In the particular individual where there has been continued local external irritation, or internal irritation of the hollow or solid viscera, cancer may develop. Of the latter Prof. Mathew J. Stewart of Leedes has recently written most authoritatively in the *London Lancet,* Sept. 12, 19 and 26, this year.

In 1929 there were 56,896 deaths from cancer in England and Wales, of which 60 per cent in men and 42 per cent in women were referable to the alimentary tract.

Clinically there has been nothing better written upon the cancer problem, exclusive of animal experimentations and the possible relationship of germs as causative factors, as appears in the last issue of the American Journal of Cancer, September, 1931, than that in a book in my library. "On Cancer," by Sir Everard Home, published in 1805. Home discussed local irritation, familial proclivity, the necessity of early removal and the radical removal of all affected tissues, glands. etc. In the case of the cancerous breast with enlarged axillary glands he emphasized the technique of removing breast and glands together, the radical removal of the pectoral muscles was not recommended, but the breast and all tissues involved. Home was the brother-in-law of John Hunter, was his former assistant and co-worker. He, himself, was a very distinguished man, but marred his record by viciously destroying many of Hunter's manuscripts—Hunter had died in 1793.

Statistics of results of the treatment of cancer are not dependable, being based upon the reports of numerous writers, the majority of whom did not "prove their cases," by reliable pathological findings, and a long enough accurate follow-up system.

Animal experiments have proven the hereditary influence of cancer in animals. All reasonable evidence and analogy indicates that the same influence exists in man. Cancer is recessive in man, our mating methods fortunately make it so —it cannot be bred out, nor, most happily can it more than accidentally be bred in. In families where some local irritation, possibly of the same type or in the same organ, results in its frequent development it may be called familial. There are records of families in which cancer seems to have been dominant.

Dr. Francis Carter Wood, director of the Crocker Institute of Cancer Research of Columbia University, recently sent his annual report to President Nicholas Murray Butler. During the past year there have been no outstanding discoveries concerning cancer, yet all the institutes which have been working on the subject have made contributions of interest and some of real value.

The "fundamental" problem is primarily one of the laboratory and not one of the clinic, according to Dr. Wood. "Yet with everwidening knowledge we know less," he added. "The situation may be illustrated by the statement of a famous biologist who, when a student asked him why a cell divided, replied that he could have told him if he had asked him the question twenty years ago, but that now we know so much more about the cell he was quite in doubt as to the valid underlying causes of so simple a process as the splitting of a cell."

High-Voltage X-ray Little Aid. Dr. Wood further explained, "such high voltage x-rays are no more effective in the killing of the individual cell than are any other x-rays, and inasmuch as miracles have not followed the use of radium, which gives off the equivalent of a two million-volt x-ray tube, disappointment might have been avoided with a little more accurate information."

The Colloidal Lead Treatment of Cancer, by Professor W. Blair Bell of the University of Liverpool, England, which a few years ago promised so much but had to be abandoned because of its danger, has just been rejuvenated, the danger being eliminated. Manganese has been added to the lead preparation and this is said to have done away with its dangers. Very guarded reports as to the results of the treatment have been published in the last number of the *American Journal of Cancer* by Dr. William H. Kraemer of the Tumor Clinic of the Jefferson Hospital, Philadelphia, and the profession will await with interest the results of their experimental work. Twenty-five patients had received the treatment up to the date of the issuance of the report.

The propaganda which we started in Nebraska some ten years ago attempting to educate the public in the early recognition of cancer and its treatment has proven a fizzle. To my recollection not a single case, in the last ten years, of cancer of the breast in women with nonlymphatic involvement has entered the University Hospital which is fed from every county in the state. Being particularly interested in the cancer problem, I am impressed with what to me appears to be the fact that the masses of the people have not been interested in this propaganda. Let me cite a sample:

I have a woman in the Clarkson Hospital now, recently operated upon, who came to me with the following history. She had noticed a lump in her breast for five months, it began to ulcerate. She went to a neighboring town and had this breast massaged by an osteopath together with other manipulations of the spine and joints of her upper extremities. She was told in addition that a rib was out of place and had to be reduced. This osteopath recognizing the progress of the disease sent this woman to Muscatine, Iowa, where the breast was pasted. She came to me with a large crateriform ulcer, the result of this treatment. A chain of cancerous glands ran up her pectoral muscle into the axilla.

Much careless, incomplete surgery of cancer is being done, some by means of the valuable diathermy technique, used by men who do not know how to handle a knife properly. I know of such work. We will never have the safest surgery (there is always danger) until a licensing system limits the number doing major surgery to those really qualified morally and professionally. Hopefully a movement has been started towards this end.

—John E. Summers, Omaha.

THE CANCER PROBLEM

The paramount issue in the cancer problem remains, as of years past, *How can we recognize cancer in its earliest stages?* Statistics reveal 22 per cent of cancer cases coming to autopsy without diagnosis and 10 per cent of cancer diagnoses are eroneous. This would seem to be a reflection upon the diagnostic acumen of the medical profession but the difficulties are many and they do not rest wholly in the medical profession. The laity are too often remiss in seeking competent advice while it is yet time to effect a permanent cure.

Periodical examinations afford the most promising source of early recognition of cancer and of precancerous lesions. It is to be born in mind that even advanced cancer may give rise to no symptoms. Not until the malignant growth interferes mechanically with function will symptoms arise and this may be late in the course of the disease. Apparent perfect health is not incompatible with advanced malignancy. For want of localized symptoms, anaemia and loss of weight are ascribed to pernicious anemia and this in the presence of an unrecognized cancer of the stomach. Bone sarcoma may be treated for osteomyelitis; bleeding from the bowel is interpreted as coming from hemorrhoids and cancer of the rectum remains unrecognized. These and many such examples may be cited to remind us that cancer is an elusive disease that calls for our utmost endeavor. Ewing says that "a somewhat careful inquiry indicates that about 70 per cent of all cancers, mostly inaccessible, are beyond the reach of early diagnosis and that incidences can only be effected by preventive measures. Thus the field of clinical diagnosis is very broad, full of pitfalls and calling for extreme alertness on the part of the physician."

Joseph Colt Bloodgood says that 75 per cent of cancers of the breast can be permanently cured if recognized early and treated properly and that 85 per cent of cancers of the lip will respond to early recognition and efficient treatment. William P. Healy is responsible for the assertion that 65 per cent of cancers of the cervix can be permanently healed if diagnosed early and properly treated. George H. Semken would cure 90 per cent of all early cancers of the skin and John E. Mackenty affirms that almost all early cancers of the larynx are amenable to treatment. It follows that a well-informed medical profession and lay public in matters pertaining to cancer constitute the most effective weapons to combat the disease. Cancer is a public health problem and should be so regarded. The campaign of education carried on by the American Society for the Control of Cancer and by the profession as a whole should receive the support of the entire profession. As a result of these activities cancer is recognized more and more in its early stages and the percentage of cures is advancing.

Bloodgood says—"What is most needed now is more ample provision for physicians to become proficient in the diagnosis of those benign conditions which precede cancer and of the earliest stages of the disease itself. By the time the diagnosis of cancer is obvious, inoperability or metastasis has doomed more than 50 per cent of the patients, while the probability of a cure in the remainder has been reduced to 10 per cent. When the diagnosis of cancer still rests upon a frozen section in the operating room or on an x-ray film, the percentage of inoperability of distant metastasis falls to less than 10 per cent, while the chances of permanent cure rise to more than 50 per cent.

"In addition to knowledge and training in the differential diagnosis of the earliest precancerous stage and of cancer itself, physicians who are to treat cancer must have thorough training in the use of x-rays and radium and in the minutest details of operative treatment, no matter how slight or how extensive a procedure may be called for. Microscopic and x-ray diagnosis, an intelligent choice of early treatment, and the thorough knowledge of surgery and radiotherapy that comes with experience, are the essentials in cancer control today. Their attainment means a specially trained group in every community; perhaps, indeed, in every standardized hospital."

Three ways of handling the cancer problem are proposed by John C. A. Gerster, chairman of the New York Cancer Committee; clinical, research and educational. The clinical means implies first an alert well informed family physician; second, a surgeon; third, a radiologist and fourth, a pathologist. Such a highly specialized group is essential to the diagnosis and management of cancer patients.

Research work is being pursued throughout the medical world. Nothing of note has as yet been uncovered but the painstaking and untiring efforts of these investigators may yet reveal the cause of cancer and when the cause or causes are known a more effective remedy will be forthcoming. Education of the profession and of the public is an effective means of cancer control. Thousands of lives are sacrificed for want of a little knowledge.

—**Palmer Findley, Omaha.**

AN ANNUAL PELVIC EXAMINATION

At the suggestion of Dr. Joseph Colt Bloodgood, Baltimore, Md., we called together the Omaha Obstetrical and Gynecological Society, all members of which concurred in the opinion that letters should be sent to their patients pertaining to an annual examination of the cervix.

If this educational campaign to protect mothers from developing cancer of the cervix is to be successful, the women of the country must receive proper examination and treatment from their family physician, and the specialist is essential. We are, therefore, asking *The Nebraska State Medical Journal* to lend its help in this educational campaign, in bringing this life-saving measure to the attention of some 1700 physicians and their clientelle.

Women who have born children should be examined for lacerations, infections and discharges, since it is well established that these are the common causes of the development of cancer in the uterus and cervix. They should insist upon the surgical repair of cervical lacerations after childbirth and should have periodic examinations during and after the child bearing period. Cervical cancer develops abruptly and advances to a serious condition in many cases within a few months, so that an examination should be made at least every six months.

Statistics of Drs. Lee, Kelly and Williams show an average of 88% of deliveries, result in a cervical laceration. Emge's report shows 80%. Dr. Grant Baldwin in a statistical review of 300 consecutive deliveries at the University of Michigan found a palpable cervical tear occurring in 69.8% of the cases. Norman H. Williams of Los Angeles said at the American Medical Association meeting in Portland that "of 100 women delivered through the birth canal, 86 showed unmistakable evidence of injury to the cervix." This statement was based on a study of 500 consecutive deliveries. Many more such reports could be quoted to show the high percentage of damage done to the cervix following childbirth, if the attending physician will look for them.

The majority of expectant mothers in this country now know the value of prenatal care. The value is based upon examinations before the birth of the child, the most careful attention during labor and examinations after the birth of the child, which should lead to repair, if necessary, of any injury caused by the birth of the child. But the great majority of mothers have not been informed that their greatest protection against cancer of the cervix is periodic examinations by a physician selected with just as much care as the one chosen in the prenatal period.

These problems rest upon the shoulders of the obstetricians and gynecologists who can help the general practitioners. This campaign will obviate all feeling of fear, as it creates the knowledge that if the organs are healthy and if the injuries are adequately repaired, there will be no danger of serious trouble developing. Consequently, this movement must create confidence between the family physician and the mothers. Close cooperation between the family physician and the specialist is essential. The greatest protection against cancer of the cervix in mothers is a periodic—at least annual pelvic examination. This examination, if possible, should be done by the physician who was in attendance at the birth of the last child. If this is not possible the examination should be made by the physician whom the doctor attending the case, selects.

The Omaha Obstetrical and Gynecologist Society earnestly urges every doctor in Nebraska who cares for obstetrical cases, to spread this message of periodic semi-annual or annual pelvic examinations to their patients, for it seems that the majority of women are either not informed or do not understand what such care could accomplish in preventing malignant growths of the genitalia.

Students of cancer have found the least improvement among cases of cancer of the cervix of the uterus in women. We believe that if adequate care is given cervical lacerations and erosions at the time of delivery or during the patient's stay in the hospital, many of these potential cancers will be prevented. Dr. Kelly states that "the occurrence of cancer on torn cervixes is a matter of such common observation that for the last forty years I have been convinced that this lesion is its common cause."

Will not all the doctors in Nebraska give their support to fostering annual pelvic examinations for women, especially those who have born children, so that old tears, lacerations, erosions, irritating discharges, may be detected, corrected and repaired, thereby preventing many cervical cancers? According to Dr. Bloodgood, by the time the diagnosis of cancer is obvious, inoperability or metastasis has doomed more than 50% of the patients, while the probability of a cure in the remainder has been reduced to 10%. When the diagnosis of cancer still rests upon a frozen section in the operating room or on an x-ray film, the percentage of inoperability or distant metastasis falls to less than 10%, while the chances of permanent cure rise to more than 50%.

There is evidence that cancer of the cervix can largely be controlled if mothers can be educated to submit to a pelvic examination *at least once a year*. To tell women, especially mothers, to report for examination the moment they observe anything unusual in the monthly periods or on the appearance of bleeding after the menopause *is not enough.*

Cancer of the cervix is, to a certain extent, identical with cancer of the skin or mucous membrane of the mouth. The lesion which preceeds cancer may and usually does undergo malignant change *without pain, tenderness,* or *discharge.* When such a lesion occurs in the skin or in the mouth, the patient becomes aware of it by feeling or seeing it, practically always before it has become cancerous.

But the area of the cervix can be seen only when examined by a physician, hence the plea for an annual or semi-annual pelvic examination.

The following printed or engraved card should be mailed to all your obstetrical patients:

"In view of the great prevalence of cancer among women, I write to advice you, if you are still my patient, that it is more than six months since your last pelvic examination. If I am still responsible for your protection, please come in for this examination.

....M. D."

—Earl C. Sage, Omaha.

CANCER A DISEASE OF OUR CIVILIZATION

The conviction is growing in the minds of many who have made a study of the cancer problem that it is not sufficient to limit our orientation of the etiological factors to simple local irritation. There are many examples of an undoubted relationship between local irritation and definite forms of cancer and this connection is occasionally shown in animals and persons in otherwise perfect general health. However, a great majority of cases seem to indicate that there is a constitutional factor as well as a local factor in most cases of spontaneous cancer.

The evidence in favor of a constitutional factor has appealed to some imaginations so vividly that they have taken the rather extreme view that the constitutional factor involves the major part of the etiology. This philosophy is reflected in the statement so often heard nowadays that cancer is a local manifestation of a constitutional disease.

The truth of the matter is probably somewhere between the extremes and probably relates to no specific constitutional factor, but to a lack of ability in certain individuals to resist invasion by certain specific micro-organisms, or the whole infection-fighting apparatus is below par so that local trauma produces relatively great local predisposition to the disease.

It is not possible to conceive of cancer beginning otherwise than as a local multiplication of cells growing in a lawless manner in an exaggerated attempt at healing, the healing being carried beyond normal limits by the fact that the irritating factors are continuous and possibly autonomous. In practically all organized cancer prevention work in the past, emphasis has been placed on local causes of the disease—the torn cervix leading to cancer of the uterus, the neglected piles or fistula leading to cancer of the rectum, the mechanical and chemical irritants about the mouth, the tiny collections of dirt in the folds between the cheek and wing of the nose and in the crevices of the ears. All these are local and in all these the relationship between the causative agent and the resulting cancerous disease is quite apparent. All such cases may be matched by cases bearing apparently equal trauma and equal irritation without cancer being produced.

Such evidence can only mean that in the person who does not develop cancer under such conditions there is present in the tissues and in the blood, certain elements that hold the irritating or infective agents below that point of invasion and irritability that results in the other case in wild cell proliferation.

The civilized white woman develops cancer of the cervix following child birth and a local laceration. This laceration permits infection to enter the cervical canal and causes an erosion of a small part of the everted canal above the external os which normally lives in an alkaline medium and normally is not exposed to pathogenic microorganisms. This leads to ulcer, the ulcer leads to cancer.

The mechanism of child-birth works itself out in the Indian woman in the same way, but practically never do these women have cancer of the cervix. The reason for the difference is in the fact that the Indian woman heals readily and completely. Her blood and tissue resistance is high, healing is rapid and complete and so she is protected from cancer.

There is no need to assume the existence of a constitutional state which invites cancer or produces cancer other than a general let-down in the whole infection-fighting apparatus of the body due to wrong food, wrong habits of living, the introduction of poisonous material from without such as tobacco and alcohol, lack of proper exercise, lack of cleanliness and lack of sunshine. As long as the human animal lives in defiance of well established hygenic laws, it is futile and unreasonable to believe that the cancer problem will ever be solved by the discovery of any specific substance which will eradicate the disease from the body. Progress will be made along two lines—the limiting of local irritations and the building up of normal, natural animal resistance such as is possessed by animals of the field and savages. Cancer is a disease of our so-called civilization. The most promising outlook for the future is that the race will make progress along the line of hygenic living.

—D. T. Quigley, Omaha.

COOPERATION WITH THE PATHOLOGIST

One is so accustomed to the idea of close cooperation of the pathologist with the surgeon that the reciprocal relationship seldom enters into consideration. Dismissing from consideration the cases in which it is quite frequently possible to decide from clinical evidence or from gross appearance at operation whether or not a lesion is of malignant character, in those cases in which the microscope alone can furnish the information for an immediate verdict, the responsibility for the diagnosis passes from the surgeon to the pathologist, and his task will be facilitated and his decision rendered much more trustworthy if the surgeon will observe a few simple precautions in the obtaining and forwarding of the material.

This applies particularly to the character of the specimen which is submitted for examination. It is scarcely fair to expect a reliable opinion of an entire breast, for example, when only a limited portion of it is put into the hands of the pathologist. Even when he has access to the entire organ it sometimes happens that the portion selected for sectioning fails to show malignancy present elsewhere. But a reasonably competent pathologist is as a rule a better judge of the portions most likely to betray lawless growth, and in any case he should be given the opportunity to determine for himself just what regions to examine. At least in this way it is possible to fix with certainty the responsibility for the diagnosis.

From the pathologist's viewpoint, an even more difficult situation is created by the sending in of a number of dismembered fragments of tissue. In such a case he is almost completely at sea, and can determine his fields for examination only by the exercise of a power of gross diagnosis which the surgeon who sends the material admits, by the very fact of such sending, is beyond his own scope. This applies particularly to material sent in for frozen sectioning. Even though that is a comparatively rapid process, it is one that takes too much time, and if liquid carbon dioxide is used, is one that is too expensive, to permit indefinite sectioning of a considerable number of tissue fragments. Needless to say, also, that in material of this character any information that might be yielded by structural relations is completely lost.

With specimens removed from the superficies of the body, it is sometimes quite difficult, if not impossible, to determine from the small portion submitted the matter of surface relationships, a very important one from the pathologist's viewpoint, since not infrequently an accurate diagnosis can be made only with sections cut in the proper plane, usually one perpendicular to the surface. At one hospital where I do the work of this sort the surgeons have overcome this difficulty by a preliminary painting of the involved area with mercurochrome. The surface staining does not affect in any way the histological examination, and makes definite orientation a matter of ease. Also in connection principally with superficial specimens, but one that concerns as well all conjecturally malignant material, a difficulty frequently encountered is too superficial removal of the material. In general, the principal criteria in the diagnosis of possible malignancy are, in about the order of their importance, the character of the cells themselves, their arrangement or lack of it, and finally, but frequently of decisive import, their relations to neighboring tissues. And it is particularly with superficial specimens that this last element is most likely to be of outstanding importance, and with which too cautious removel is likely to deprive the pathologist of the information to which he is entitled.

In the matter of clinical history, I believe that my views will not be accepted as orthodox, even among pathologists. A specimen is usually submitted to a pathologist for an opinion derived principally on the basis of histological examination. To that extent, I believe that the pathologist should base his verdict as fully as possible on that ground alone, without reference to the clinical findings. That, I am aware, is quite contrary to the practice of Virchow, who, although the greatest of all histological pathologists, insisted, I am informed, on a complete history of every case he examined. But it must be remembered that tissue pathology was largely developed by Virchow himself, and that the accessory information was absolutely essential in the building up of the relations between tissue change and disease. Pathology has largely passed beyond that constructive stage, and an independent verdict should be whenever possible at least. another entire leg of the tripod, or tetrapod, or whatever it may be, of the finished diagnosis, rather than one patched up from odds and ends of clinical diagnosis and histological examination.

In spite of these brave words, I will acknowledge that there is a modicum of material on which a thoroughly intelligent opinion can be rendered only when in addition to the section, the clinical findings are at hand. For the surgeon, the matter need not be a problem at all. I would say that it would be well to send with the specimen a brief synopsis of the clinical history. For those who share my opinions, this need not be read until after a verdict has been reached, and some cases will not be diagnosed in any case without the reading.

A word as to the dangers of partial removal of material for biopsy examination. While there is no means of definitely evaluating this risk, such experimental work as has any bearing on the subject would appear to indicate that the danger from this source is less than the risk of promoting dissemination of tumor cells by excessive and perhaps too forcible manipulation, as in palpation, of the tumor. However, it is in most cases quite possible to effect the complete removal of the primary tumor at the time that biopsy material is being obtained. Where for some reason this is not feasible, the case is usually of such a character as to justify the partial removal of enough for histological examination.

—H. E. Eggers,
Department of Pathology, University
of Nebraska College of Medicine.

THE EARLY DIAGNOSIS AND CONTROL OF CANCER

The effects of cancer upon its host have been known for more than thirty centuries. For many generations physicians have known cancer as a clinical or pathological entity, which they have found interesting, mainly from a standpoint of diagnosis. In the past century more attention has been given toward a solution of the cancer problem, especially during the past three decades. But there seems still to remain considerable indifference on the part of physicians in regard to their responsibility in the control of cancer.

The invention of the modern microscope and microtome, more frequent biopsies and post mortem examinations, organized cancer research, cancer clinics, early diagnosis, early surgery, and the introduction of irradiation therapy have increased our knowledge and perhaps stimulated our interest in this so important a problem. However, we are still confronted with an increase in cancer mortality. This increase is not due to less active or to poor treatment, for who would not rather be treated for cancer today than thirty years ago. There is an actual increase in the number of cases diagnosed as cancer. And the problem of every physician is to not only diagnose cancer and diagnose it early, but to treat it and treat it early. Organized cancer research has been in progress for thirty years, and the research work will continue to go on, with the hope that some day something more specific may be found to control or eradicate cancer. But this cancer problem should not be thrown entirely on organized research. We should not stand by idly waiting for someone to make the great discovery of a cure for cancer. The cancer problem is one in which every physician, and also laymen, should take, not only interest, but an active part in controlling it.

Notable among already existing agencies in cancer work are The Institute of Cancer Research of Columbia University, and other cancer clinics and cancer research at some of our universities. The American College of Surgeons has a "Committee on the Treatment of Malignant Diseases." This committee has drawn up a standard for the organization of cancer clinics in accredited hospitals. Such a clinic should consist of an able staff or organization which should consult on all cancer patients. Minimum standards require that such a staff have available in addition to diagnostic and surgical equipment, also adequate apparatus for x-ray therapy and an amount of radium sufficient to insure effective treatment. Records of case histories, details of treatment and course, and periodic examinations of cancer patients are to be kept for careful study. Physicians must realize that until specific treatment is found, early diagnosis, early proper treatment, and an efficient follow-up system must be advocated. This must be properly brought before the public. To convince the public that such a procedure is one way to a solution of the cancer problem, sufficient facts must first be obtained.

In addition to the facts that might be obtained from the already existing cancer organizations, it is being advocated that cancer be made a notifiable disease. In a recent paper entitled "The Need for Cancer Mortality Statistics," the author, Dr. Francis Carter Wood, urges that cancer be included in the notifiable disease. He assumes that this would (1) "greatly increase our knowledge of a multifarious group of diseases now roughly grouped for statistical purposes under a single head of cancer; (2) stimulate the physician to early diagnosis; (3) encourage the patient to make use of the best treatment, and would do a great deal to inhibit the activities of the quack; (4) be a check on death certificates; and (5) result in obtaining valuable records of growth of tumors and length of life of untreated patients."

Dr. Frederick L. Hoffmann, in the *American Journal of Public Health*, January, 1930 issue, states that "Until we take the cancer situation more seriously and remove it from the present-day apathy and indifference, no reduction in the rate of deliberate means and methods will be successful. Every suspicious tumor case should be promptly reported to the authorities, and early effort should be made to insure to the patient the best possible mode of treatment. That would be absolutely impossible without notification. As a second step there is the utmost urgency for a complete follow-up system, at least in all hospital cases. Countless persons fall victim to cancer because of post-operative neglect and indifference." He furthermore emphasizes the necessity of obtaining accurate statistics on the results of early treatment in order to convince the public that early treatment offers a hope for cure.

Not only the cancer research worker or the specialist on the staff for diagnosis and treatment of cancer, but every physician should do his part in the control and eradication of cancer.

—O. A. Reinhard, Lincoln Clinic.

A CANCER STUDENT

"The Board of Directors of the American Society for the Control of Cancer, after careful consideration, recently issued the following statement: 'Cancer of the lining of the mouth and the skin is not only an unnecessary, but a preventable disease. No beautiful women die of cancer of the skin because she pays immediate attention to the first skin defect and keeps her skin clean and oiled. The modern woman has demonstrated to men that it is possible to smoke with a minimum risk of cancer. The modern woman keeps her teeth clean and smooth and stops the use of tobacco the moment she feels a sore spot or sees any place in the lining of the mouth which is different from the normal mucous membrane. We now know that mothers can be given the best protection from cancer of the cervix by proper post-natal care and annual pelvic examinations by their own physicians. The cures of cancer of bone have been increased in the past ten years from less than four to more than twenty-five per cent, because the press have taught the public the importance of an immediate x-ray examination if there is any pain or swelling in the bone. No man past forty should neglect the palpation of his prostate by a competent urologist, or the visualization of the lower bowel by the proctoscope. No adult should neglect x-ray films of the teeth after the age of thirty, at intervals even more frequent than suggested by his dentist. The greatest protection against disease today for the individual is correct information continuously through the press and an annual examination and conversation by and with a physician selected while well. In the opinion of the Board of Directors of the American Society for the Control of Cancer the only effective treatments for cancer today are surgery or irradiation with x-rays or radium. It further desires to emphasize the point that the best palliative or permanent results are to be obtained when the treatments are applied as soon as possible after the first warning symptoms'. The Board also wishes to make this statement to the public: 'If people wish the greatest possible protection against cancer and other diseases, they should, while they are well, select a family physician if they can afford one, or a clinic, and should ask not only for an examination, but for advice on the rules of health and on the earliest symptoms of disease'."

HIGH CANCER DEATH-RATE IN 1931*

The mortality figures for cancer during the first half of 1931 are anything but encouraging. Unless the situation takes a distinct turn for the better during the rest of the year, 1931 will not only set a new high death-rate for this disease but will register a larger year-to-year increase than has yet been observed. We have learned to expect a small rise every year in the cancer death-rate. But nothing in the mortality experience of the last two decades gives basis for the expectation of as large an increase, in any one year, as we have experienced during the first six months of 1931.

Among the many millions of Industrial policyholders of the Metropolitan Life Insurance Company the cumulative death-rate for this disease has increased from 77.0 per 100,000, during the first half of 1930, to 83.1 for the corresponding period of 1931. This is equivalent to a rise of nearly eighty per cent. Unfortunately, mortality data for the general population in 1931 are extremely scanty and it is impossible to determine definitely, at this writing, what has happened with respect to cancer mortality in the country as a whole. Nevertheless, such facts as are available indicate a larger rise than usual in the cancer death-rate. This is true, particularly, in two large states, New York and New Jersey. While scattered data for the general population do not point to as pronounced a rise as shown for the insured, they do indicate that the cancer situation this year is even more serious than usual.

One important conditioning factor must be evaluated in drawing conclusions about the latest facts relating to deaths from cancer. The influenza epidemic was doubtless responsible, in part, for the considerable rise in the cancer death-rate during the first quarter. In past years the usual experience has been that the mortality from all important chronic diseases increases during widespread influenza outbreaks. Nevertheless, no part of the 4.5 per cent rise registered for cancer in the second quarter, can be ascribed to influenza, inasmuch as the combined death-rate for influenza and pneumonia was actually lower in that quarter of 1931 than in 1930.

In-so-far as we are able to determine at this writing, the 1931 increase in the cancer death-rate has not been concentrated in any particular age range. Data are not yet available to show whether the age distribution of the Industrial policyholders differs materially this year from last; and whether there is, in 1931, a larger proportion of lives exposed to risk in the age groups where the cancer death-rate is highest. There has been little change this year, however, in the ratio of cancer deaths, for any age group, to the total number of deaths from this cause.

In one section of the United States, the Far West, where the Metropolitan has more than 1,100,000 Industrial policyholders, the cancer death-rate has actually declined this year. It is among the great bulk of the insured (who live in the United States and east of the Rocky Mountains) and among approximately one and one-quarter million Canadians that the unusual rise has occurred. In Canada, it amounted to 7.5 per cent, up to the end of June.

SURGERY AND IRRADIATION BEST TREATMENT FOR CANCER

The Board of Directors of the American Society for the Control of Cancer, after careful consideration, issued the following statement, March 7, 1931. This has already appeared in the New York Times and the New York Herald Tribune for Sunday, March 8, 1931.

"In the opinion of the Board the only effective treatments for cancer today are surgery or irratiation with x-rays or radium. It further desires to emphasize the point that the best palliative or permanent results are to be obtained when the treatments are applied as soon as possible after the first warning symptoms."

"The Board also wishes to make this statement to the public: If people wish the greatest possible protection against cancer and other disease, they should, while they are well, select a family physician if they can afford it, or a clinic while they are well, and should ask not only for an examination but for advice on the rules of health and on the earliest symptoms of disease."

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*From the Statistical Bulletin, Metropolitan Life Insurance, Co., August, 1931.

CANCER RESEARCH IN GREAT BRITAIN

The eighth report of the British Empire Cancer Campaign shows important advances. The substance in tar which produces cancer has been isolated by Dr. J. W. Cook and his associates, at the Cancer Hospital, and found to be a chemically pure substance known to chemists as 1:2:5:6-dibenzanthracene. This is an advance of the first magnitude toward knowledge of the causation of cancer. Experiments are progressing to find a method of freeing lubricating oils from the cancer-producing substance. This would prevent such conditions as mule spinners' cancer. Perhaps the most important result is the production by Dr. T. W. Lumsden at the Cancer Research Laboratory of the London Hospital of an antiserum. Sheep injected with human cancer cells do not acquire the disease but produce anti-cancer substances. When their blood is added to cultures of mouse cancer cells, these die within a few minutes, while normal cells are unaffected. Hence the possibility of an antiserum which may cure and then immunize the living subject. It was found that if the antiserum could be confined to the malignant growth in a mouse, the growth died and the animal recovered. But this was possible only in superficial growths. In the case of internal growths it was found impossible to inject the antiserum into the general circulation without killing the animal. But acting on a suggestion of Sir Charles Martin, Dr. Lumsden and his assistant Dr. Campbell Smith have been able to separate the anti-cancer element and produce a comparatively nonpoisonous substance ten times stronger than the original antiserum. With this they have cured and immunized mice suffering not only from artificially implanted cancers but also from spontaneous cancers by injecting the antibody into the general circulation. These results have never been obtained before and, although not yet established as constant, open up horizons that seemed impossible. Following up the work of Professor Warburg on the peculiar metabolism of cancer cells, it has been shown at the Middlesex Hospital by Drs. Dickens and Simer that a defective power to oxidize sugars is a regular characteristic of malignant growth tissue. Professor Mellanby has shown that phosphate plays no part in cancer glycolysis. As regards the relation of diet to cancer, foods rich in vitamins were found to stimulate cancer no less definitely than normal cells, and they did not prevent tumors from developing when an effective carcinogenic stimulus was present. Cancer is, therefore, not a deficiency disease.—*J. A. M. A.*, September 5, 1931 (London Correspondent).

CANCER COMMITTEE OF THE UNIVERSITY COLLEGE OF MEDICINE

At a meeting of the full surgical staff of the Department of Surgery, College of Medicine, University of Nebraska, September 10, 1931, a resolution was unanimously passed establishing a committee for the treatment and study of all cases of malignant disease entering the University Hospital. Accordingly, a committee has been appointed as follows:

Dr. Chester H. Waters, Director, Obstetrics and Gynecology.
Dr. Alfred J. Brown, General Surgery.
Dr. Herbert H. Davis, General Surgery.
Dr. Howard B. Hunt, Radiology.
Dr. George P. Pratt, General Medicine.
Dr. H. E. Eggers, Pathology.
Dr. Alfred Schalek, Dermatology.
Dr. Robert D. Schrock, Orthopedic Surgery.
Dr. Wm. L. Shearer, Oral Surgery.
Dr. Wm. H. Stokes, Ophthalmology.
Dr. Philip Romonek, Otolaryngology.
Dr. C. A. Owens, Urology.

Of this general committee the following members have been selected as an executive committee, Dr. Chester H. Waters, chairman, Dr. A. J. Brown, Dr. Herbert H. Davis. and Dr. Howard B. Hunt, and to this executive committee all cases of malignant disease presenting themselves at the University hospital will be immediately referred. It shall be the duty of this committee to secure a complete history of the case, following the lines laid down by the American College of Surgeons. They shall then confer together to determine the line of treatment to be carried out, and if the case belongs in any of the specialties, the member of the committee representing that specialty shall be called in and shall, for that case, be a member of the executive committee, with the same standing as the other members of that committee.

A much more detailed history is planned than ordinarily, a very careful following out of the treatment agreed upon by the committee, and an exceedingly careful follow up, so that in the course of a few years we shall be able to show some really constructive work in the management of this baffling disease.

As soon as the line of treatment has been outlined the case shall be turned over to the member of the committee selected to treat that particular type of case, and as soon as prepared, the treatment designated shall be carried out.

It shall be the further duty of the executive committee to keep in constant touch with each patient treated for malignancy in the hospital and keep a complete record of the subsequent progress of the case.

It shall be a further duty of the committee to make publication of the results we are getting in medical periodicals, and as far as possible, keep in touch with the medical profession of Nebraska and let them know what is being done and what results are obtained.

It is not the function of the committee to enter into any elaborate and expensive research work on cancer, because other institutions are much better equipped for such work, but the sole duty shall be to do all possible to save the lives of the poor of Nebraska who suffer from malignant disease; also to secure, as far as possible the cooperation of the medical profession of the state and the general lay public in order to bring about earlier diagnosis and adequate treatment while the disease is still localized.

Of the three members representing gynecology and general surgery, Dr. Waters has been designated to have charge of the treatment of cancer of the female genitalia; Dr. Brown of all cases of cancer of the abdominal cavity exclusive of the female pelvis; and Dr. Herbert Davis of all cancer of the breast, head and neck.

With the hearty cooperation of all the staff of the University hospital, this effort to put the treatment of malignant disease on a sound basis is assured.

—B. B. Davis, Chairman,
Department of Surgery.

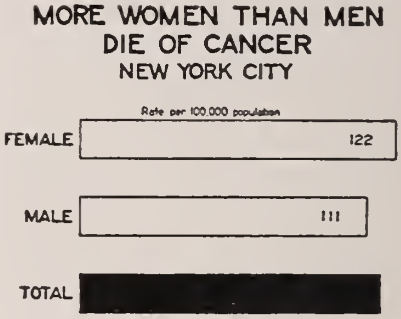
PARAGRAPHS ABOUT CANCER

(The following paragraphs have been furnished by Mrs. F. J. Rigney, Publicity Director, New York Cancer Committe, to whom our obligation is hereby expressed.)

The Cancer Campaign: "In the failure to unlock the ultimate secret of the causation of cancer one is likely to overlook the fact that there are few diseases concerning which more additions to our knowledge have been made in the last half century than in the group of cancerous diseases. The so-called "cancer campaign" is abundantly justified by the striking improved results of treatment by radical surgery or by radiotherapy attendant upon early diagnosis and prompt treatment. Nor is there any reason to be hopeless regarding a deeper insight into the causation of these diseases."—William H. Welch.

Cause for Encouragement: "Taken as a whole it would seem that those interested in the cancer problem have cause for encouragement. The increase in biological knowledge has begun to give us a picture of what controls and shapes and course of growth. The support of state and federal departments of health which can serve as the means of collecting and studying a superior type of vital statistics is increasing. The greater urbanization which exists all over the country gives a chance for great and able centres of clinical work and hospitalization of cancer cases. The wider spread of education makes the public less difficult to approach in any campaign of information. Finally the interest in public health and the point of view of the preventive medicine "attitude" are reforming and revitalizing our national life in such a way as to make possible a steady increase in the investigation of cancer and in the speed of our progress toward its eventual control."—Clarence C. Little, Sc. D.

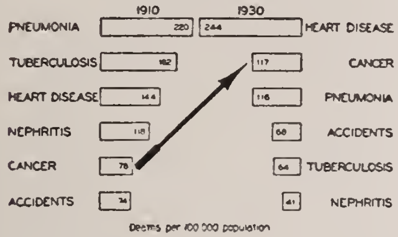
More Women Than Men Die of Cancer: Although there are more men than women in New York City, the deaths from cancer among females exceed those among males. In 1930 this difference was more marked in the age groups between 25 and 65. Before the age of 25 the difference was less, although the deaths of females were more frequent. After the age of 65, the balance changed, more men than women dying from cancer, in spite of the fact that the total number of women living in that age group was considerably in excess of men.



The accompanying chart shows the death rate from cancer for males and females of all ages per 100,000 of population in 1930. The female death rate was 122 per 100,000 as compared to 111 for males.

Cancer Ranks Second as Cause of Death: Cancer is of increasing importance as a cause of death in New York as is shown by a chart comparing the leading causes of death in 1910 and in 1930. In 1910, pneumonia was the most frequent cause, with 220 deaths per 100,000 of population, pulmonary tuberculosis was second, with 182 deaths per 100,000, and heart disease third, with 144. Cancer was fifth on the list, causing 78 deaths per 100,000 of population during that year.

By 1930, however, cancer had risen to second place, with 117 per 100,000 of population, an increase of 50 per cent. Pneumonia, tuberculosis, and nephritis, on the other hand, all showed marked decreases. The fall in the death rate from tuberculosis is a most encouraging demonstration of the value of public health education and of preventive medicine.

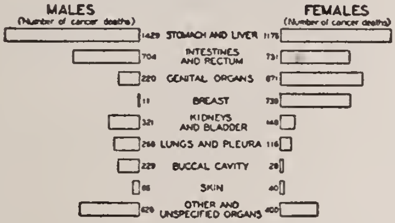

CANCER RANKS SECOND
AS CAUSE OF DEATH
NEW YORK CITY

Heart disease now ranks as the chief cause of death in the city.

Periodic physical examinations would undoubtedly result in a considerable decrease in the mortality from both heart disease and cancer.

Cancer Attacks All Parts of the Body: The stomach and the liver are the most frequent site of fatal cancer. Last year in New York City there were 2,605 deaths from cancer of these organs, 1,429 in men and 1,176 in women. In addition, there occurred 1,435 deaths from cancer of the intestines and rectum, 704 in men and 731 in women. making a total of 4040 deaths in both sexes due to cancer of parts of the digestive system.

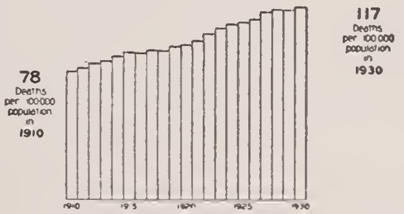
Cancer of the breast and genital organs caused 1,841 deaths, by far the larger number, 1610 occurring in women. Cancer of the kidneys and bladder on the contrary is more common among men, as is cancer of the lungs, cancer of the buccal cavity, and cancer of the skin.


PARTS OF BODY ATTACKED
BY FATAL CANCER
NEW YORK CITY

Cancer of the skin caused 66 deaths among men, and 40 deaths among women, most of which should have been prevented, as cancer of the skin is visible, accessible, and in its early stages usually curable by surgery or radiation. In these tumors the relation between chronic irritation and the development of the growth is very clearly shown, and it should be possible to prevent a large proportion of them.

Cancer Deaths are Increasing: The number of deaths from cancer in New York City have steadily increased in recent years. This is shown by a graph prepared by the New York City Cancer Committee from the reports of the City Department of Health. From only 78 per 100,000 of population in 1910, the deaths have risen to 117 per 100,000 in 1930, an increase of 50 per cent in the twenty years. The actual number of deaths in New York City from this cause in 1930, was 8,025.

This increase is due to several factors—more accurate statistics, better diagnosis, and greater average age reached by the population. which puts a larger number of people in middle age i. e. cancer age. The result of all these factors is that in 1930, the deaths from cancer in New York were outnumbered only by those from heart disease.


CANCER DEATHS ARE INCREASING
NEW YORK CITY

Unfortunately, cancer is not a reportable disease, and the statistics cover only the mortality. The number of cases successfully treated cannot be computed. If all the facts were known cancer would doubtless be found more prevalent than is at present realized, but it would also be proved that by early discovery and prompt and proper treatment many cures could be effected.

Information in regard to the disease, the warning signals, and a list of hospitals where diagnosis and treatment can be obtained will be gladly sent, free of charge, on request to the New York City Cancer Committee, 34 East 75th Street, New York City.

A scientist is experimenting with the creation of artificial life, and we suppose before another decade the stork will be bringing 'em in in cans.—Ohio State Journal.

THE RECENT CONGRESS OF PHYSICAL THERAPY

Physical therapy as a handmaid of medical therapy and as a specialty is largely a development of the years following the World war. It is, therefore, of interest to note the tremendous strides physical therapy has made in a few years. The recent meeting at Omaha was attended by men from all parts of this vast country, from San Francisco to Boston and from Winnepeg to the Mexican border, and the writer never saw a finer looking group of men and women at any convention, anywhere, and their faces bespoke an earnestness of purpose.

The sessions opened promptly Monday morning, October 5, with clinics—medical, surgical, and eye, ear, nose and throat, in three separate rooms, all of which were well attended. During the four days of the meeting clinics were held forenoons and meetings for scientific papers and lectures were held afternoons. There were several evening sessions at which moving pictures were shown and there was a banquet the third evening. The attendance was not large, due no doubt to economic conditions, but those in attendance evinced an intense interest.

Dr. Gustav Kolischer, Chicago, was elected president-elect; Dr. A. F. Tyler, Omaha, vice president, and Dr. R. B. Baumer, Chicago, secretary.

REGARDING NORMET'S SOLUTION

October 19, 1931.

To the Editor, Nebraska State Medical Journal:
Dear Sir:

In this week's number of *The Journal of the American Medical Association*, page 1149, appears a report "Solution Normet Not Acceptable for N. N. R." I hope that no one will be deterred from using Normet's Solution by this finding, as it is based upon ignorance, avoidance of statements of corroborative facts in the French article quoted, which instead of being one by Normet was a report made to the French Surgical Society by Professor Cueno, one of France's distinguished surgeons and President of the French Surgical Society. The report confirmed Normet's animal experiments as well as the value of the solution in cases where emergency transfusions were indicated. A number of desperate clinical cases were cited.

We have been led to believe that the findings of the Council on Pharmacy and Chemistry are based upon honest investigation and scientific knowledge. If the one on Normet's Solution is a sample, it is time a change is made in the personnel. We members of the association are entitled to efficiency in our employees.

Jno. E. Summers, M. D.
222 Bankers Res. Life Bldg.

E.A.

EDITORIAL PARAGRAPHS

Now we do know that Aimee the Great is simple minded.

Bilateral sciatica in old men should make the physician suspicious of a malignant prostate.

Flexner states an attack of infantile paralysis is protective for life irrespective of the severity of the attack.

The Iowa State Medical Society meeting for 1932 will be held at Sioux City May 4, 5, 6, and Nebraska physicians will be invited to attend.

An Ohio chiropractor treated a patient for "ordinary cold in the head" with such vigor as to fracture the fifth cervical vertebra—and the supreme court affirmed a verdict against him.

The Committee on the Cost of Medical Care has appointed the University of Chicago Press its publisher. Eleven studies have been published and are available at nominal prices and thirteen more are in preparation.

The Nebraska University College of Medicine has some 60 married men as students. Time was when the embryo doctor had to wait several years after graduation until he could earn enough to afford to get married. In these modern days a wife must be an asset to a student instead of a liability, or, perhaps, father, "he pays the freight."

The editor again wishes to announce that he would like more component society meeting reports. Unless they are promptly furnished by the secretary or some other one interested, the editor has only press clippings for source material. Reports should be more than copy of programs—they should give the high points presented by the speakers. These reports should be in the hands of the editor by the 15th of the month. The *Journal* is just as good as you help make it.

Dr. John B. Deaver, one of America's really great surgeons, died recently at the age of 76 years. He was for years head of the surgical department of the University of Pennsylvania, chief surgeon of the Lankenau hospital, Philadelphia. He published a three volume work on

"Surgical Anatomy," a work on "Appendicitis," a volume on "Diseases of the Breast," and in cooperation with Dr. A. P. C. Ashurst, "Surgery of the Upper Abdomen." He was president of the American College of Surgeons some years ago.

The Methodist hospital, Omaha, has instituted an up-to-date psychiatric department for women which includes the services of a specially trained psychiatric nurse and an automatically regulated and recording continuous bath tub, occupational and recreational activities, together with the usual technical and laboratory advantages of an up-to-date hospital. This fills a long felt want in that it permits of the adequate psychiatric treatment of psychneurotic and early acute psychotic cases in a general hospital. Heretofore, psychotherapeutic work with this type of illness has been hampered by contact with the physically sick patients and the enforced idleness due to lack of proper opportunity for occupational work.

NECROLOGY

T. M. Triplett, Milford, Nebr.; medical college data unavailable; located at Lincoln in 1892 and for many years was prominent in medical circles in Lincoln, Beatrice and Crete; died at Roosevelt hospital, Milford, September 30, 1931, aged eighty-nine years.

NATION WIDE AUXILIARY NOTES

From California comes the following item which is of particular interest to this auxiliary because the program chairman is the widow of Dr. Frank E. Coulter, who for many years was an active member of the Omaha-Douglas County and Nebraska State Medical Societies:

"In California, the program chairman, Mrs. F. E. Coulter, suggested two estimable eight month programs for county auxiliaries. The first is for auxiliaries in counties where a County Health Unit exists. The second is for auxiliaries in counties where no County Health Unit exists. Since they are not copyrighted we are paying Mrs. Coulter the compliment of passing them on.

I

September—"Why An Auxiliary", speaker, if possible, a state officer, preferably the president.

October—"Working Principles of Our County Health Unit," the county health officer.

November—"Common Defects in Children" or "Contagion and Immunization", member using National Auxiliary material.

December—"Teeth and Their Relation to Health", school dentist.

January—"What are We Doing for the Physically Underprivileged Child?", selected speaker.

February—"Mental Hygiene", local psychiatrist or selected speaker.

March—(a) Book Review, "The Human Mind", Menninger; auxiliary member.

(b) "What Our County is Doing for the Mentally Ill, selected speaker.

II

September—Same as in I.

October—"Advantages of County Health Unit", member using National Auxiliary material.

November—"Common Defects in Children," member using National Auxiliary material.

December—"Contagion and Immunization," member county medical society.

January—"Local Health Problems," round table.

February—"What Our State is Doing for the Mentally Ill," a superintendent of state hospital.

March—"Book Review, "The Human Mind," Menninger, auxiliary member.

April—(a) Book Review, "Biography of the Virgin Mind," Dakin, Auxiliary member.

(b) "Our State Health Laws," selected speaker.

The Women's Auxiliary Department, Missouri State Medical Journal, September, 1931, contains the following paragraph:

Mrs. A. B. McGlothlan, St. Joseph, was installed as president of the Women's Auxiliary to the American Medical Association at the meeting in Philadelphia, June 8, 9 and 10. Mrs. McGlothlan has had much and varied experience in organization work. She was the first state secretary of the Missouri Auxiliary and its third president. She has served as state and as national chairman of Hygeia. Through her efforts the state won the hundred dollar prize offered the state auxiliary obtaining the largest number of subscriptions to Hygeia. She is a member of the Missouri Child Health Council and initiated and directed the effort which secured a County Health Unit in her county. She was a member of the White House Conference on Child Health and Protection. Mrs. McGlothlan is interested in civic as well as medical organizations, having served as treasurer and more recently for several years as president of the St. Joseph Y. W. C. A. and is a member of the National Y. W. C. A. board. She has taken an active part in Community Chest work and in cultural club and church activities. The Missouri Auxiliary is confident of a successful year for the national auxiliary under the leadership of Mrs. McGlothlan.

Our national president-elect, Mrs. Walter Jackson Freeman, of Philadelphia, went to Europe the first of August expecting to return the first of September; but has been detained indefinitely by the illness of her son who is laid up in Munich with an attack of inflammatory rheumatism. However, Mrs. Freeman is taking care of her department in the Bulletin of the American Medical Association for October.

—Mrs. A. D. Dunn.

NEBRASKA AUXILIARY NOTES

It is interesting to know that our campaign for Hygeia was well under way before receiving the plans outlined by our National Hygeia Chairman. While our plans were not as complete they coincided insofar as they go with the National, and Mrs. Siman our State chairman is deserving of much praise.

About 200 attended the tea given, October 9, at the home of Mrs. Roscoe Smith, Lincoln, by the Auxiliary to the Lancaster County Medical Society for the nurses attending the convention of the State Nurses' Association.

The ten hostesses were representative of the various Lincoln hospitals and Mrs. Fred Teal, Mrs. George Walker, Mrs. Oliver Everett and Mrs. J. E. M. Thomson planned the affair. Mrs. Mary Roberts, R. N., Editor of the American Journal of Nursing, spoke briefly.

—Mrs. Roy H. Whitham.

TUBERCULOSIS ABSTRACTS

A Review for Physicians.

As the mariner trims his sails to the weather, so the physician adjusts his therapeutic measures according to the pathological course of the disease. While general principles must guide us in the treatment of tuberculosis, no formula applicable to every case can be devised. If one understands the sequence of events following infection by bacillus tuberculosis, the response of the tissues and the natural processes of healing, treatment becomes more rational and adaptable to the immediate need. The most we can do in our present state of knowledge is to support the natural tendencies of the body to overcome the disease. M. Jaquerod of Leysin, Switzerland, discusses the natural processes of healing in pulmonary tuberculosis in TUBERCLE of July, 1931. Abstracts of the article follow.

HEALING PROCESSES IN TUBERCULOSIS

Radiography enables us to demonstrate the anatomical changes taking place in tuberculosis during life and ending in cure with a precision which is almost equivalent to post-mortem findings. Pulmonary tuberculosis was formerly considered as a chronic ailment from the very beginning. We now know that the disease passes through various stages before it arrives at a condition of chronicity. Virchow taught that all pulmonary tuberculosis lesions necessarily originated from miliary tubercles, solitary or conglomerate, and that these were the only specific lesions produced by the tubercle bacillus. Congestive or simple inflammatory changes in the region of chronic foci had been observed, but these changes were regarded merely as neighboring reactions without clinical significance. Today, we know that these lesions are tuberculosis, that they preceded the chronic lesions, and that during a period of a year or more may exist alone and constitute the whole of the disease.

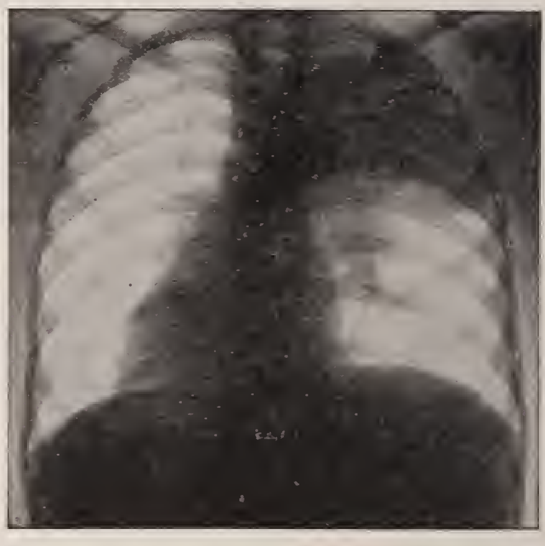
INFLAMMATORY NATURE OF TUBERCULOSIS

Wilson-Fox and Green, two English pathologists, recognized the pneumonic nature of the lesions (in 1873-74) before the tubercle bacillus had been discovered. Thaon, in France, (1885) found that the tubercle bacillus was really the sole cause of tuberculous pneumonic lesions. Only ten years ago, the distinction between miliary (productive) and inflammatory (exudative) lesions was recognized in Germany.

This conception of the pneumonic or inflammatory nature of tuberculous lesions at their origin is of practical importance. As long as the lesions are in the inflammatory stage, they may heal by resolution comparable in every way to the resolution of the lesions in acute pneumonia, except that the process of regression lasts several months instead of one or two weeks. In the pneumonic stage, the bacilli are not yet solidly implanted in the tissues as in miliary type lesions but are still on the surface of the mucous membrane between the epithelial cells in the alveoli and the inter-cellular spaces. Consequently, their destruction and elimination by phagocytes or other means is rendered much easier. Only when these lesions do not heal do the manifold lesions of chronic tuberculosis develop, and these heal with greater difficulty. Indeed, when that has occurred, healing is possible only by the complicated processes of fibrosis and pulmonary retraction.

TIME ELEMENT IMPORTANT

The question, "How recent is the disease?" (that is to say, the lesion) has acquired a high clinical importance from the standpoint of prognosis and treatment. In recent pulmonary lesions, two types must be distinguished. The first type is encountered chiefly in childhood in an individual not previously infected and, therefore, non-allergic. If in this case the infection is slight, tuberculin sensitiveness will be produced but no actual disease capable of giving rise to clinical symptoms of obvious anatomical lesions. This the author calls abortive tuberculosis. But if the infection is more serious, actual disease may occur. The lesion is of relatively slight importance and it consists usually of an infiltration in the neighborhood of the point of inoculation with swelling of the lymph nodes at the hilum. These lesions are recognized by radiography. (In the United States, this type is designated as the childhood type of tuberculosis.) They regress slowly and heal by resolution, leaving no trace other than calcification in the hilum glands (tracheobronchial nodes). When the infection is too massive or if the resistance is not sufficiently good, the disease may continue to develop past the non-allergic phase and the lesions may soften or generalize.



X-ray plate, chest of boy, aged 8. Consolidation of right upper lobe with marked enlargement of lymph nodes from fourth to eighth posterior ribs. Physical signs: left, normal; right limited expansion, dullness, bronchial breathing, and rales. Tuberculin test positive. Temperature up to 100.4 degrees during dispensary observation. Twelve per cent underweight. Cough marked, sputum positive in April to animal inoculation; in May, to routine examination.

Twenty months later, the upper lobe had contracted somewhat and was less opaque; fresh infiltration had appeared in the middle lobe; the lymph nodes had diminished slightly and were beginning to calcify. In ten months more, both the upper and middle lobes cleared considerably and the outlook is now hopeful.

From "Childhood Type of Tuberculosis," Chadwick and McPhedran, Nat. Tuberc. Assn.)

When bacillary infection takes place in an individual already sensitized by tubercle bacilli (reinfection), the pulmonary reactions may be much more intense, while the reaction of the pulmonary lymph nodes is almost nil. (In the United States, this form is called adult type of tuberculosis.) The inflammatory reaction may go so far as necrosis of parts of the lung, ending in cavity formation. But this cavity is quite different from that of chronic tuberculosis. Its walls are not formed by a well organized pyogenic membrane but by simple inflammatory tissue; and for that reason may heal by resolution without leaving any apparent fibrous scar. The cavity is, therefore, not always the final and most serious lesion of pulmonary tuberculosis.

The early forms of tuberculosis described are capable of cure by resolution; the chronic form only by the complicated processes of fibrous transformation and natural or artificial organic modification.

PNEUMOTHORAX FAVORED

The author is of the opinion that pneumothorax treatment is indicated in almost all cases of pulmonary tuberculosis as soon as diagnosed. Others consider that they are justified in waiting a certain time while placing the patient in the best possible condition for the cicatrization of his lesions. In favor of intervention, the author mentions the physician's preference for a method which enables him to play an active part and at the same time to verify speedily the results of his intervention.

He also feels that as the first two or early forms always exist before the third, it is in these early stages that the bacillus can be most easily attacked, and, therefore, the possibilities of finding a remedy, of checking and curing pulmonary tuberculosis are most promising if directed to the early types. He thinks, therefore, that the search for a cure should be directed to some remedy capable of facilitating the process of resolution.—The Natural Process of Healing in Pulmonary Tuberculosis, M. Jaquerod, Tubercle, July, 1931.

THERAPEUTIC RESEARCH

The ideal of therapy is, of course, a practicable bactericide. Meanwhile, as we await this, it would appear that a study of structure would suggest the following paths as worthy of exploration:

1. That directed toward the discovery of a medium or method to accelerate and heighten cellular proliferation and fibrosis. Dangers lie in enhancing the tendency of tissues to tumor-formation.

2. That toward a medium to neutralize the intoxicating products of the allergic reaction. If it were nonspecific, it might prove a veritable boon in many infectious diseases.

3. That toward a medium to neutralize the poisonous products that proceed from tuberculous foci. For reasons frequently expressed, it is believed that these are not specific, but are substances that result from the death and disintegration of the cellular components of foci. Can a substance antagonistic to them be found? Or a substance that would so act upon the body as to ward off their physiological effects?—The Evolution of Tubercle, Allen K. Krause.

THE SOCIETIES

A special meeting of the **Omaha-Douglas County Medical Society** was held on September 8, 1931, in the Medical Arts auditorium, Dr. A. S. Pinto, presiding.

President Pinto appointed Dr. J. A. Weinberg to introduce the speaker, Dr. H. O. Wangensteen, Professor and head of the department of Surgery in the University of Minnesota Medical School.

Dr. Wangensteen spoke on "Acute Bowel Obstruction." He discussed the classification of the various obstructions, the pathological physiology involved in the different types of obstruction, and emphasized the fact that a diagnosis of intestinal obstruction must be made early if the patient is to be saved. The diagnosis of intestinal obstruction in the majority of cases can be made, the speaker said, by careful analysis of the symptoms of the patient without much evidence to be obtained on physical examination. There is not much tenderness in bowel obstruction. The patient vomits and has severe abdominal pain without tenderness, but with many borborygmi, especially of metallic character and sound. He further went into discussion of the merits of the various operative procedure for the relief of obstruction. The talk was profusely illustrated with charts and lantern slides.

The regular meeting of the **Omaha-Douglas County Medical Society** was held on September 22, 1931, in the auditorium of the Medical Arts building; Dr. A. S. Pinto, presiding.

The scientific program consisted of case reports by Dr. Herman Jahr, Dr. Rodney Bliss, Dr. Edwin Davis and Dr. W. H. Stokes.

The case reported by Dr. Jahr was that of a boy, aged 4 years, who was admitted to the University Hospital with a diagnosis of Acute Nephritis of three days' duration. This boy had all evidences pointing to a kidney lesion, edema, the urinary findings and drowsiness. The boy died of a lymphosarcoma originating presumably in the ilium with metastatsies to the liver and kidney. Discussion by Dr. J. A. Weinberg.

Dr. Bliss talked on the approach to a Digestive Problem, emphasizing the importance of a careful history, properly elicited and intelligently interpreted.

Dr. Edwin Davis presented charts showing statistics in a large number of perineal prostatectomies done by the author. He also showed a certified statement by the National Agency of Public Accountants to verify the number reported and the results obtained. Dr. Davis stated that the mortality in perineal prostatectomies is so low that in spite of the advanced age of most of the patients the risk of the operation is practically nil. Discussion by Dr. Max Emmert.

Next on the program was Dr. W. H. Stokes, who showed many slides illustrating pathological conditions of various kinds in the fundus of the eye. Discussion by Dr. Holtz and Dr. Maxwell.

The regular meeting of the **Omaha-Douglas County Medical Society** was held in the Auditorium of the Medical Arts Building, Omaha, on Tuesday evening, October 6, 1931, at 8:00 o'clock p. m., Dr. A. S. Pinto, presiding.

This was a joint meeting with the American Congress of Physical Therapy and the guest speakers were members of that organization.

Dr. Pinto then called on Dr. Roy W. Fouts, president of the American Congress of Physical Therapy, to introduce the speakers. The first paper was by Dr. Gustav Kolischer, senior surgeon of urology, Michael Reese and Mt. Sinai Hospitals, Chicago, and his subject was "Place of Diathermy in the Cancer Problem." This paper was discussed by Dr. J. E. Summers.

The next paper "Studies in the Application of Heat Therapy in Pelvic Infection" was presented by Dr. F. H. Ewerhardt, Washington University Medical School, St. Louis, and was discussed by Dr. Disraeli Kobak of Chicago.

Motion pictures of pelvic operations concluded the program.

—Abstracted from Medical Bulletin.

The meeting of the **Eighth Councilor District Medical Society** was held at O'Neill, October 1st. The following program was given:

Ringworm (Illustrated Lecture), Dr. Donald J. Wilson, Omaha; Varicose Veins, Dr. Herbert H. Davis, Omaha; Practical Infant Feeding, Dr. Floyd Clarke, Omaha; State Medical Journalism, Dr. F. A. Long, Madison; Traumatic Surgery of the Extremities, motion pictures, compliment of Davis and Geck, Inc.

Dr. Wilson found all but three out of 88 medical students examined infected with ringworm of the feet. The proportion of infection is probably as large in people generally. Fine scaliness between smaller toes almost a certain indication of the presence of the fungous. Whitman's ointment most satisfactory; but many cases tax the ingenuity of the physician.

Dr. Herbert Davis feels that the injection treatment of varicose veins one of the greatest forward steps in years as it practically entirely supercedes operation; but as the painter mixed his colors, with brains, so cases for treatment must be selected.

Dr. Clarke usually takes infant from the breast at 9 months but continues with bottle for several months longer. Babies can eat spinach, orange juice and egg earlier than we formerly thought. He is not impressed with proprietary infant foods and milk modifications, but favors modified cow's milk, modified according to physician's direction.

At 7 o'clock dinner was given complimentary to Dr. George O. Remy, Ainsworth, in commemoration of his eightieth birthday. Dr. Remy gave a short talk and read a poem on "Life".

The old officers were re-elected as follows: President, Dr. J. P. Gill, Chambers; Vice President, Dr. O. W. French, Page; Secretary-treasurer, Dr. J. P. Brown, O'Neill.

The eleventh annual meeting of the **Seventh Councilor District Medical Society** was held at the court house, Clay Center, October 22, with the following program:

"Vomiting in Infancy," D. O. Hughes, M. D., Fairbury; "Arterio-sclerosis of Lower Extremities," W. N. Nelson, M. D., Hardy; "Intestinal Obstruction," C. W. Wiggins, M. D., Shickley; "Constipation and Allied Intestinal Disorders," Illustrated, John C. Thompson, M. D., Lincoln; "Common Rectal Diseases," Illustrated, C. R. Kennedy, M. D., Omaha; Dinner, 6:00 p. m., guests of the Clay County Medical Society; "Liability Insurance," R. W. Fouts, M. D., Omaha; Address, Lucien Stark, M. D., President Nebraska State Medical Association, Norfolk.

At a meeting called for September 2d at Geneva, the **Fillmore-Saline Medical Society** was organized together with such other physicians from surrounding counties as wished to join. Dr. Hansen, of Lincoln, gave an interesting talk on Obstetrics, especially from the mortality and sociological standpoints. Dr. A. A. Conrad, of Crete, was made president; Dr. J. Bixby, Geneva, vice president, and Dr. V. V. Smrha, Milligan, secretary-treasurer. Meetings will be monthly, the second Monday evenings.

—V. V. Smrha.

The **Madison Five County Medical Society** met at the Hotel Norfolk, October 8th, and following a dinner the following dental program was rendered:

"The Influence of Nutrition on the Tissues of the Mouth," by Dr. P. T. Barber, Omaha; "The Relation of Dentistry to Medicine," by Dr. A. Hugh Hipple, Dean School of Dentistry, Creighton University, Omaha.

Dr. Barker talked the proposition that avitaminosis is the cause of tooth decay and that proper diet will not only prevent but cure pyorrhoea and cited cases to prove his contention. The so-called "cankered sore mouth" is a deficiency disease cured by rightful dieting.

Dean Hipple credited the Five County Society with being the first medical society he had ever heard of to encourage dentists to affiliate and commended the idea. He gave glimpses of the transition history of dentistry during the past twenty-five years from crowning and bridgework to focal infection. He doubts whether there is a place for specialization in dentistry and plead for cooperation between the family physician and the family dentist.

A joint meeting of the **Twelfth Councilor District Medical Society** and the **Sixth District Councilor Society** was held in Alliance, Friday, October 2. There were about seventy-five physicians and about forty dentists in attendance.

The Box Butte County Medical Society had a clinic at the St. Joseph Hospital in the forenoon with the following cases: Dr. Johnston presented two cases of Actinomycosis; Dr. Walker, a case of Tubercular Peritonitis; Dr. O'Keefe, Fracture of the Mandible; Dr. Whitehead, A Case of Epilepsy, following Chronic Mastoiditis; Dr. Kuncl, A Case of Tuberculosis of the Kidneys.

The following program was given in the afternoon at the court house. Sodium Amytal, Dr. J. A. Phipps, Scottsbluff; The Maxillary Sinus, Dr. Wm. L. Shearer, Omaha; Dental Diagnosis, Dr. T. P. Mullins, Chadron; The Treatment of Meningitis With Special Reference to the Epidemic Form, Dr. G. Alexander Young, Omaha; Relation of the Pharynx and Larynx to the Goitrous Thyroid, Dr. C. A. Roeder, Omaha; Circumcision, Dr. J. R. Taylor, Sidney; Results of Perineal Prostatectomy, Dr. Edwin Davis, Omaha.

After the clinic at the hospital, the Ear, Eye, Nose and Throat men had a clinic in Dr. Whitehead's office.

After the program a business meeting was held and the following officers were elected for the coming year; Dr. C. M. Pierce, Chadron, president; Dr. John McCoy, Alliance, vice president; Dr. W. C. Harvey, Gering, secretary-treasurer.

In the evening a banquet was held at the Alliance Hotel. About one-hundred and fifty doctors, dentists and their ladies attended. Dr. A. L. Miller of Kimball acted as toastmaster. Dr. Lucien Stark, president of the State Association, gave the principal address of the evening.

This was one of the largest and most successful medical meetings ever held in western Nebraska.

—E. I. Whitehead.

The October meeting of the **Cass County Medical Society** was held at Weeping Water following a dinner at the Rest Haven hotel. The program was furnished by Dr. E. V. Wiedman and Dr. J. W. Thomas, Lincoln, on the subject of "Focal Infections in Children."

The **Otoe County Medical Society** met at St. Mary's hospital, Nebraska City, October 12. Dr. W. E. Stokes, Omaha, gave an illustrated lecture on "The Fundus of the Eye."

HUMAN INTEREST TALES

Dr. B. P. Nolan has located at Humphrey.

Dr. A. F. Srb, Omaha, is a patient at the Mayo clinic.

Dr. R. A. Chittick, a Harvard graduate, has located at Wisner.

Dr. H. M. Robbins, West Point, attended clinic in Chicago recently.

Dr. Paul W. Tipton has been appointed one of the police surgeons of Omaha.

The Lutheran hospital, Omaha, announces the opening of a new psychiatric unit.

The marriage of Dr. R. R. Donley, Blair, and Miss Dorothey Reeves of St. Louis is announced.

Dr. Charles H. Root, Bassett, has the sympathy of the profession in the loss of his wife, recently.

Dr. and Mrs. J. N. Plumb, York, made a trip to Texas in early fall in quest of better health.

A free orthopedic clinic was given at McCook a few days ago by the cooperation of the profession and the Elks.

Dr. R. M. Lee, Ravenna, has entered the Graduate School of the University of Pennsylvania for a year's study in surgery.

Dr. William J. Gentry has located at Gering and has purchased the equipment of Dr. F. B. Young, who has gone to California.

Dr. P. A. DeOgny of Milford has been appointed a member of the state board of health, succeeding the late Dr. E. T. McGuire.

Dr. F. A. Neisius, for some months located at Humphrey, has moved to Rushville and will be associated with Dr. John Broz.

Dr. E. R. Hays, Falls City, was the victim of an auto collision recently, breaking a scapula and sustaining some lesser injuries.

Dr. and Mrs. Mrs. J. F. Lukovsky, Omaha, motored to Texas and Louisiana in October, touching San Antonio, Galveston, Houston and New Orleans.

The estate of Dr. Harold Gifford, not disposed of before death, totalled about $169,000, according to information given out of county court, Omaha.

Dr. and Mrs. H. J. MacArthur, Omaha, visited Florida during late summer and incidentally called on Dr. Thomas Truelson formerly of Omaha, at Tampa.

Dr. C. W. M. Poynter, dean Nebraska University College of Medicine, gave the annual address to the Nu-Med society of the University at Lincoln, October 1st.

An award of $2,000 was rendered in a district court in Nebraska against a physician for destruction of the sight of an eye by the use of 5% silver solution on the lids.

Dr. John R. Nilsson, Omaha, chief surgeon of the Union Pacific, was elected vice president of the American Surgical Association at the meeting held at Toronto, recently.

Dr. Walter Judd, a former Rising City boy, gave an interesting talk on China where he has been stationed for the past six years as a medical missionary, to the David City Commercial Club.

Several hundred kindergarten children in the Grand Island schools have been given the toxin-antitoxin immunization against diphtheria. The board of education furnished the serum and service and the patrons with few exceptions cooperated.

Dr. F. B. Young, for 15 years a practitioner at Gering and Scottsbluff, has located at Long Beach, Calif. Doctor Young was one of the outstanding men in the organized profession in Nebraska and his wise counsel will be missed. He was also active in civic affairs and the Gering-Scottsbluff community owe much to his efforts including the West Nebraska Methodist hospital.

BOOKS RECEIVED

BULLETIN OF THE NATIONAL RESEARCH COUNCIL, NUMBER 83: A Compendium of the Statue Law of Coroners and Medical Examiners in the United States by George H. Weinmann, L. L. B., Attorney and Counselor at Law, 240 pages, 8 mo. paper cover. Published by the National Research Council of the National Academy of Sciences, Washington, D. C., 1931. Price $3.00.

SURGICAL PATHOLOGY OF THE DISEASES OF BONES by Arthur E. Hertzler, M. D., Surgeon to the Agnes Hertzler Memorial Hospital, Halstead, Kansas, Professor of Surgery, University of Kansas. 272 pages, 8 mo., 211 illustrations. Published by the J. B. Lippincott Company, Philadelphia.

SURGICAL PATHOLOGY OF THE GENITO-URINARY ORGANS by Arthur E. Hertzler, M. D., Surgeon to the Agnes Hertzler Memorial Hospital, Halstead, Kansas, Professor of Surgery, University of Kansas. Cloth cover, 8 mo., 286 pages and 222 illustrations. Published by the J. B. Lippincott Co., Philadelphia.

GYNERCOLOGY AND UROLOGY FOR NURSES by Samuel S. Rosenfeld, M. D., F. A. C. S., Adjunct Obstetrician and Gynecologist Lebanon Hospital, New York City, New York. William Wood and Co. Price $2.00.

BOOK REVIEW

SIMPLE LESSONS IN HUMAN ANATOMY by B. C. G. Harvey, M. D., Professor of Anatomy, University of Chicago. 425 pages. American Medical Association, 535 North Dearborn St., Chicago.

This treatise is a collection of articles first published in Hygeia. It is written for the lay reader in language one can understand and is profusely illustrated so the reader may visualize as he proceeds. Physicians will derive much pleasure and profit from reviewing the book.

Unlike treatises on anatomy prepared for medical students and physicians which begin with the skeleton, Harvey's book begins with the skin, then proceeds with the connective tissue, muscles, skeleton, alimentary canal, blood transportation system, heart and so on.

We heartily commend the book.

AGREE NOT TO PUBLISH DOUBTFUL ADVERTISING

(Magazines and Papers Will Abide by Trade Board's Action on Misleading Copy.)

(Special to The New York Times.)

Washington, Sept. 13.—The Federal Trade Commission announced today in connection with its campaign against fraudulent advertising that several publishers and advertising agents have signed stipulations to abide by the commission's action on charges preferred against certain advertisers.

In each instance the agent or publisher waived his rights to appear in proceedings as correspondent with the advertiser.

The commission did not name the individuals or firms concerned.

One New York agency had placed for publication the advertising copy of a corporation selling an alleged remedy for indigestion.

The publisher of several widely circulated magazines which had printed advertisements of three concerns selling watches and jewelry of questionable value, as well as perfumes, and an alleged cure for the tobacco habit, agreed to stop publishing such copy, awaiting disposition of the commission's cases against the advertisers.

The publisher of a motion picture magazine agreed to stop publishing advertisements of a cure for bashfulness.

A large southern newspaper which had carried advertisements of an alleged physician offering a competent treatment for high blood pressure agreed to stop publishing them pending action against the advertiser.

The publisher of two magazines printing advertisements of a cream to develop various parts of the body agreed to abide by the commission's action against the advertiser.

The commission said that facts in the proceedings were presented to show methods of competition condemned as unfair, to guide industry and protect the public.

DEMENTIA PRAECOX

R. G. Hoskins, Worcester, Mass. (*Journal A. M. A.*, April 11, 1931), believes that the current formulations of the nature of dementia praecox are too complex to afford a suitably comprehensible basis for therapy. A simplified formulation is offered that emphasizes the practical aspects of treatment. The psychosis is regarded as a persistent dream state. It is a protective reaction in a sensitive subject to a sense of personal failure to meet his own stardards. The consequent loss of self-respect renders existence in the world of reality intolerable. Therapeutic efforts should be directed to restoring his self-respect, thus eliminating the necessity for the protective reaction. This can best be achieved by correction of faulty standards, by augmenting the patient's store of available energy, by teaching him an improved technic for utilizing existing energy, and by various types of situational therapy. The formulation is susceptible of intelligible, detailed presentation to those not conversant with technical psychiatry.

RINGWORM OF FEET

William L. Gould, Albany, N. Y. (*Journal A. M. A.*, April 28, 1931), emphasizes the importance of foot baths containing from 10 to 15 per cent sodium thiosulphate in the treatment of ringworm of the foot. If the foot was not entirely immersed in the solution the results would not be so successful, because all the parts of harboring the organisms would not be reached. Swabbing is usually done on the more apparent areas and not the more obscure, where the tinea may be just as plentiful as a constant source of reinfection. It undoubtedly is frequently not so much the medicament that fails as it is the mode of its aplication. The bath is unhandy at times, however, and a 20 per cent powder of sodium thiosulphate in boric acid has been tried with much success on feet, footwear and floors. The powder is more easily applicable and as with the bath may readily be placed on the entire foot, especially between the toes, about the nails and beneath the soles. It is quickly applied to the sock and inside the shoe. A light dusting is all that is necessary. It has been found ideal at times to step into the bath and later use the powder locally. The powder may regularly be dusted on the feet and footwear night and morning for prevention and comfort.

THE ILL-ADVISED USE OF CESAREAN SECTION

But "the ill-advised use of cesarean section constitutes the most serious departure from safe and sane obstetrical practice." Though the maternal death rate resulting from this means of delivery is occasionally as low as 2 per cent. for the country as a whole it ranges between 5 and 10 per cent. Moreover, the argument usually put forth in its favor—that it is primarily a means of saving babies—is not valid. "In certain large areas at least one child in 10 fails to survive."

ROSTER OF OFFICERS—1931

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J. M. Willis, McCook, Vice President	1932
F. B. Young, Gering, Vice President	1932
R. B. Adams, Lincoln, Secretary-Treasurer	1933

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H. J. Lehnhoff, Lincoln	1933
W. R. Boyer, Pawnee City	1933
A. E. Cook, Randolph	1933
Morris Nielsen, Blair	1931
Frank Tornholn, Wahoo	1931
H. E. Potter, Fairbury	1931
W. J. Douglas, Atkinson	1931
R. D. Bryson, Callaway	1932
L. W. Rork, Hastings, Chairman	1932
C. A. Selby, North Platte	1932
A. L. Cooper, Scottsbluff	1932

DELEGATES TO THE A. M. A.

B. F. Bailey, Lincoln	1931
R. W. Fouts, Omaha	1932

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SOME FACTORS INFLUENCING SURGICAL MORTALITY AND MORBIDITY*

J. W. DUNCAN, M. D.,
Chief of Staff, Douglas County Hospital,
Omaha, Nebr.

The early surgery was of the urgent type, usually wounds sustained in combat with the elements. with wild beasts, or with fellowmen in war. Since it offered meagre aid, the severely wounded were frequently despatched and the acutely sick were left to die.

Now most of the surgery done is elective as to time and place of commission and as to the craftsman.

With the introduction of anesthesia and surgical asepsis, fields here-to-fore closed were opened and the development of our art even within the professional lifetime of some of us here present seems almost unbelievable.

Much of this development has come through the careful preparation of patients for operation and painstaking postoperative care. Often a surgeon's hardest task has begun only when he has placed the last suture.

It may be accepted as a fact that advancing years increase surgical mortality. But it is well to recall that years lived do not always accurately measure age any more than shadows always accurately delineate figures.

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*From the Department of Surgery, Creighton University School of Medicine, Omaha, Nebraska.

Physical and emotional variants are innumerable and cannot be considered in detail. One common type is the short, fat, high diaphragmed individual, rather phlegmatic, commonly hypertensive, which often shows early visceral changes which may disturb a normal convalescence. Their complaints are, however, usually well grounded in pathology and are more apt to be relieved by surgery than the type about to be described.

The other extreme is the long, alar, underweight type with a low threshhold subject to a variety of abdominal complaints probably based on ptosis and congenital anatomic deficiency. They also suffer from a number of quasi neurotic symptoms. These patients usually make a good immediate convalescence, but most of them have constitutional physical or mental inadequacies which reassert themselves after surgery, and very often, if they are followed long enough, they will be found to have replaced the old complaint with a new one equally obscure as to origin and equally satisfying to the patient. The low surgical mortality that this type usually gives, lends courage to the patient, boldness to the surgeon, and more or less odium to the profession as a whole.

Defying classification or typification is the so-called bad surgical risk. The ordinary evidences of safe operability are present. Good surgical judgment consists of an awareness of hidden danger signals not clinically demonstrable perhaps. This faculty comes only with long and accurate observation of the sick person and even then is not vouchsafed to all of us.

Mental attitudes have a profound influence on the manner in which persons withstand surgical operations. Fear is a great dissipator of vital body forces and may send a patient to the operating room in a shocked condition and recovery from surgery may be delayed or defeated.

The custom of relatives or friends reciting at length the suffering and danger attendants upon surgery, is the utmost refinement of cruelty. The morbid substratum that lies in the minds of all of us and desires release is probably responsible for this very harmful practice.

Fear in the patient who has just undergone surgery usually does not give rise to serious postoperative disturbance, but unless confidence is restored, all sorts of annoying situations are apt to arise and they may try the patience of the surgeon to the utmost. Every surgeon has developed his own best method of handling these cases. Whatever it is, he will be convinced it is more or less futile and will be hoping for a better one. It is in this class of cases that the value of a capable nurse is most clearly shown. She will be able to tell whether or not the patient needs reassurance, diversion, or more or less studied neglect.

A succession of visits by relatives and friends make a very great draught upon the energy of the surgical patient. The sick room is often turned into a forum in which debates are held as to the competency of the surgeon and the progress of the patient. Very often conjugal visits are profoundly disturbing. Even the patriarch who has recently undergone prostatectomy recovers more quickly if the spouse's calls are short and infrequent. An obstetrician friend of mine observed to me not long ago, that labor pains are always harder and less effective in the presence of a husband. A broad analogy might be made in many cases in surgical practice. The personality of the nurse, and the faithfulness with which she carries out orders is a very important factor in recovery. Painstaking rather than perfunctory compliance with orders marks the difference between good and bad nursing, and surely in all cases nurses charting should be untinged by personal or constitutional peculiarities. In any case, if the surgeon is to get full benefit of the nurse's efforts there should have been previous professional contact. I always feel more or less balked in handling a seriously sick person with a strange nursing personnel.

It is interesting to consider the effect of organic heart disease upon surgical mortality. The common belief that heart failure is the greatest danger following surgical operations is not warranted though it is probably a result of our habit of resorting to that diagnosis in a fatality for want of a better one. That often we do not know even with an autopsy what causes death is a well known fact. To exemplify: In a 65 year old woman, hypertensive with cardiac and renal degeneration, who was operated upon for a suppurative appendix, did heart, kidney, or peritonitis cause the exitus? The illustration is fresh in my mind for within a month I have had such a case. What causes death in these old people is hard to determine. Life being very nearly exhausted it takes very little to extinguish it. Of course, no argument is advanced against autopsies. Progress in our work is made only as our knowledge of pathology is revealed in the operating room or the dead house.

To revert, as a matter of fact, organic heart disease in and of itself does not seriously militate against recovery from surgical operations.

In a series of 414 sufferers from heart disease who had undergone 494 operations the unexpected mortality was 6.3%. Those with coronary sclerosis showed 45.5%, those with chronic myocarditis 4.9%, those with valvular heart disease 2.1%, unexpected mortality, and those with paroxysmal tachycardia no unexpected deaths. It will be observed that organic heart disease. unless it be coronary sclerosis, need not be considered a major contraindication where a surgical condition exists. However, when the type of treatment may be elective as in some cases of uterine fibroid, it is evident that non-surgical measures should be chosen.

Surgery in hypertensive patients represents, I believe, no particular problem except if it be associated with serious cardiac or renal disease. Probably ether is the best anesthetic for patients with high blood pressure. Nitrous oxide or ethylene raise it excessively and spinal analgesia even with ephedrine is apt to lower it dangerously.

I know of no more difficult surgery than that involving the gallbladder and the ducts in a short, fat, high-diaphragmed individual. The pathology in these cases involve not only the gallbladder but the liver itself. Some of these cases die following operation from what appears not to be a surgical complication but rather a profound metabolic disturbance with a rapidly rising pulse, quickening respiration, deepening coma into the exitus. I have found glucose given per rectum, under the skin, and intravenously, invaluable in these cases, and it is my practice to order at least 2000 c.c. normal salt solution containing 50 grams of glucose under the skin for the first 24 hours. I believe it lessens the tendency toward vomiting which Orr and Haden have shown rapidly depletes the blood chlorides. It is in these cases, that is, those with gallbladder disease and hepatitis that spinal anesthesia offers undeniable advantages. At this time we have no reliable tests for liver function and indeed the functions of that gland are not clearly known other than that it stores glycogen, forms urea, elaborates bile, and has additional detoxifying functions.

Since the introduction of insulin, surgery in diabetes has been robbed of its terror. Statistics from the New York Hospital show that the death rate following surgery in diabetics, since the introduction of insulin. has been practically that of other patients. Surgeons often loathe to use insulin in sufficient dosage and often seem to fear insulin shock as greatly as diabetic coma. Yet with reasonable care and watchfulness, large doses of insulin can be used in any case without danger.

It is well to remember that while the aged diabetic can be made sugar free with insulin, there remains the coronary and peripheral sclerosis and myocardial degeneration usually seen in these cases as added risks. Surgical infections, even in mild diabetics should be looked upon as emergencies, for infection travels rapidly in a diabetic and death may come quickly.

An attack of acute appendicitis in a diabetic is always an emergency. The rules that some of us have laid down for ourselves in determining the urgency of operations in appendicitis do not apply. But in any event and under any circumstances, sound surgical judgment need never be suspended because a patient is a diabetic.

Surgery in the sufferer from tuberculosis is not often called for. But even in those cases in which it is demanded, our refinements in anesthesia and postoperative feeding eliminate many of the former dangers. The advance in thoracic surgery, including that in pulmonary tuberculosis, is so marked as to promise a great deal in the near future.

Acute blood loss either preoperative or postoperative. need occasion little concern now that transfusion is such a common practice. Many of us have had very favorable results from the use of Normet's solution in the absence of an immediately available donor. The effect of surgical Normet's solution in many cases seems almost miraculous.

Quite as serious as anemia is either preoperative or postoperative dehydration. It will be within the professional lifetime of many here present that there has come a realization of the value of fluids in preparing patients for operation or sustaining them afterward. The injunction of the early surgeons, "to clean the bowels out well" usually meant starvation as well as fluid depletion, for the patient ate little or nothing and underwent severe purgation. Now-a-days most candidates for surgery present themselves with a fairly well established fluid balance. Exceptions are to be made chiefly in gut obstruction and persistent vomiting from other cause. Those cases unable to take fluid by mouth may be supplied by either rectal drip, salt solution under the skin, or intravenously. Glucose solution under the skin or intravenously gives an easily assimilable food and has saved many lives. A dry tongue always warrants an order for more fluid by one of the four methods at our command.

We have not yet secured the ideal anesthetic agent but the progress made in this branch of our art has been remarkable. The early Egyptians induced anesthesia by fitting a snug block of wood over the head striking it with a hammer. Dupuytren induced faint in sensitive patients by unexpected verbal assault. The former method was sure but not safe, the latter was safe but not sure. The common dread of ether by those who have taken it and by those about to take it has delayed many more or less urgent surgical procedures and the vomiting that follows ether anesthesia contributes much to postoperative dehydration as well as profound alteration in body chemistry that many tip the scale against recovery. While, in my opinion, ether may be regarded as generally the safest for major surgery, the surgeon who excludes other forms of anesthesia in selected cases is doing an injustice to his patient. The gases, nitrous oxide and ethylene used alone or with ether have undeniable advantages in some cases. I do not believe, however, that it shows good judgment to doggedly finish a difficult laparotomy under gas anesthesia when it might have been done better and more expeditiously by adding a little ether.

I am firmly convinced that spinal anesthesia for major surgical procedures below the diaphragm has great advantages and will soon be given wider recognition. I do not feel that spinal anesthesia is yet a safe form of anesthesia for breast amputation or thyroidectomy as some surgeons suggest but it is equally undesirable to saturate a patient with ether to remove hemorrhoids or amputate a digit.

The effect of extreme heat on recovery from surgical operations has been a matter of much interest to me for some time. This interest was accentuated by the hot spell through which we passed last summer and by a death on my own service and three deaths on the services of my colleagues which are to be explained on no other ground. The autopsies held in all four cases revealed no adequate cause for death. In July, 1930, I had a patient who died on the 5th P.O.D. of what I believe was heat stroke with a temperature of 106 degrees axillary. One of the cases on another surgeon's service died on the 3rd P.O.D., operated upon for appendicitis, with a fever of 110 degrees, another death followed cholecystectomy on the 6th P.O.D., with a fever of 106 degrees axillary. It is not established, as nearly as I know, that extremes of temperature are reflected in the surgical mortality rates, but I am unable to account for these deaths in any other way. If we consider the extreme heat of the operating rooms and the common practice of insisting upon heavy covering in bed following operations even in hot weather it is easily understood how insolation, or heat stroke, might occur. The habit of minimizing all physical activity during extremely hot weather may profitably be extended to non-urgent surgical operations.

Hyperthyroidism associated with enlargement of the thyroid gland is easy to diagnose but a mild or latent thyroid toxemia unassociated with glandular enlargement may complicate a surgical condition and become very active following operation. Reviewing the past year's work, I recall three cases that worried me very much. All of them recovered but I am convinced that they were cases of latent hyperthyroidism made active by a surgical trauma. If true hyperthyroidism exists, it will, of course, respond quickly to Lugol's solution.

Nervousness and a rapid heart do not, however, always warrant a diagnosis of acute hyperthyroidism. Tachycardia following operations in nervous individuals is not uncommon. A few months ago I removed a stone from the left kidney in a young woman, a sister of a physician. On the 4th P.O.D., her pulse reached 160 and the nervousness that begun to develop was accentuated by the visit of a consultant. Exclusion of visitors and proper sedatives quickly brought it down to 80 and she left the hospital on the 10th P.O.D. This, I believe, was a case of paroxysmal tachycardia which was made worse by my own concern and by the consultant's visit.

In some hospitals the operating personnel is inadequately instructed as to the careful placement of the patient on the operating table. I have seen two cases of foot drop following pressure on the peroneal nerve as it winds around the head of the fibula when the patient was placed in the Trendelenburg position. I have seen the same complication following a gynecological operation in which an overspent assistant supported himself on the patient's thigh. I have also seen radial paralysis from pressure on the arms on the table edge and ulnar pain or paralysis is common in this more or less exposed nerve.

Postoperative vomiting is one of the very vivid recollections of the patient. The violent and painful diaphragmatic abdominal spasm associated with vomiting in recently laporatomized patients quickly exhausts the patient and sometimes changes the fear of death into a hope for it. The excitation to nausea varies greatly. Very often it is hysteric in origin and can be controlled by one of the barbiturates. Morphine which is very closely related chemically to apomorphine frequently nauseates, a fact that is not well appreciated by many who use it repeatedly to overcome the restlessness induced by nausea. I have found a combination of morphine and sodium luminal very valuable in relieving pain and nausea.

Vomiting may be the initial symptom of acute dilatation of the stomach a most distressing and dangerous postoperative complication if not properly handled. In my opinion it is an acute autonomic upset grossly disturbing both muscular and glandular structures in the stomach. With the passage of the tube comes a gush of gas and fluid and a collapse of the stomach. There is an enormous accumulation of the fluid in the stomach and often gallons can be obtained with the tube although no liquid has been given by mouth. rectum, or under the skin. The large quantity of dark, foul fluid which is evacuated, quickly dehydrates the patient and unless 3000 or 4000 cc. of fluid under the skin, intravenously. or subcutaneously every 24 hours, the patient becomes dried out and death takes place. The proper technique in the passage of the stomach tube in these cases is of great importance, in my opinion. No sooner has the tube entered the esophagus than there comes a geyser of dirty, black fluid and if the tube is not immediately withdrawn often times the patient will drown in his own vomitus, or if not, will later develop an aspiration pneumonia. Internes and nurses should be taught to patiently withdraw and reinsert the tube permitting voluntary expulsive efforts until it can be gotten safely into the stomach. It seems unnecessary to say that not every laparotomy patient who vomits postoperatively needs gastric lavage. but it can be said that a surgical interne has much more use for a stomach tube than he has for a stethoscope. Very often the mere availability of a tube has a salutary effect in controlling the hysterical vomiting rather frequently seen.

A most distressing post-operative complication is the so-called paralytic ileus or an acute gaseous distention of the gut often seen in cases in which there has been no unusual handling of the bowel and no peritonitis. The etiology of this condition is, I believe, also an autonomic disturbance and this theory is given weight by the manner in which the condition responds to spinal anesthesia which removes peristaltic inhibition with miraculous relief of the symptoms. Gas passes freely and the abdomen becomes flat. This response is so definite that W. J. Mayo has suggested it serves as a differentiation from mechanical ileus. There are cases of a mechanical obstruction, however. in which the gut will be emptied below the site of operation immediately upon the injection of a spinal analgesic. Such response should not rule out the existence of an organic obstruction. In my own hands I have found spinal anesthesia combined with hypertonic salt solution intravenously very favorable in handling paralytic ileus. I have not found jejunostomy of any avail in relieving the distension in this condition, though I am sure it has saved some lives in the mechanical obstruction in my practice.

Complete or incomplete mechanical gut obstruction is not an uncommon serious postoperative complication. A surgeon hesitates to reopen an abdomen which he has recently entered. particularly if there was infection within, but delay is dangerous and the least one can do is to give the patient the benefit of a doubt and do a jejunostomy.

Discussion of postoperative wound infection always seems to me to be rather futile. The performance of an aseptic surgical operation involves a ritual in which we are all instructed and from which none of us deviates in any major degree. Yet such procedures are all, more or less, experiments in bacteriology. There can be no such thing as a perfectly clean surgical operation. Try as we may. infections will occasionally develop and it requires constant effort in the operating room to maintain them at a minimum. It is only after long training that individuals develop a sense of surgical cleanliness that never fails them, in or out of the operating room, and it will often be seen that assistants are violating the most elementary rules of cleanliness in their work on surgical floors though very careful in the surgery itself. But no matter where the fault lies, responsibility must be borne by the surgeon himself, and he bears little favor in my eyes if he does not have the courage to accept it, for after all, the factors that are controllable lie within his hands.

There are some cases of wound infection in which neither the surgeon nor his corps of assistants is in any way responsible. I refer to those in which the field of operation is clean and there has been no infection introduced but is deposited in the wound by a contaminated blood or lymphatic stream from some distant focus.

But even if there be no extrinsic or intrinsic infection develop a certain number of surgical wounds refuse to heal without known cause, local or constitutional, and break open with more or less evisceration. No one who does any amount of abdominal surgery will go for any period of time without having this occur in his practice. Without any warning the wound often opens widely and patient's attention is first called to what has happened by the warmth of the gut lying on the abdomen, sometimes not covered by the dressing. The wound edges on inspection are dry and clean. I have had it happen three times in my practice. Syphilis as a cause is ruled out. Possibly careless suture of the peritoneum allowing a wisp of omentum to act as an opening wedge may be the cause. I am of the opinion there exists an inherent disability in wound repair. Fortunately the complication is not as serious as it sounds. Resuture usually brings about a good recovery.

Occasionally following clean laparotomy there develops an entirely unlooked for severe, rapidly spreading and fatal peritonitis. Sometimes in these cases the gut has not been opened and there seems to be no possibility of contamination from within the cavity itself. I have had two such deaths and careful search failed to reveal the cause of the streptococcus infection which resulted fatally. But that such complications can and do arise serve only to call to our attention the unforseeable and unknowable hazards inherent in major surgery.

Every surgeon feels a sense of guilty omission when one of his patients suffers a postoperative hemorrhage and as a rule, if there has been adequate pre-operative investigation of bleeding time, precise technique and accurate ligation of vessels its possibility is nearly eliminated. But even well placed and tied ligatures may slip or break under the strain of coughing or vomiting. Sometimes also a surgeon is at his wits end attempting to control what seems to be an ooze in a shocked patient and he returns the patient to bed with a hemorrhage apparently controlled which later becomes active when the shock passes and the blood pressure rises. The replacement of the lost blood by a transfusion, or saline, or glucose, or Normet's solution may be advisable but it requires a nicety of judgment to determine whether or not such measures will not increase the hemorrhage to the patient's detriment.

Most distressing is a postoperative thyroid hemorrhage. The patient looks as if he were going to choke before one's eyes, as he verily does, if the pressure is not relieved. Asphyxia may take place before the surgeon can reach the patient and the necessity of the house attendants having been instructed in handling postoperative thyroid hemorrhages is apparent.

Nearly all of us have at sometime found the difficulty of securely placing a ligature almost insuperable. The point may be inaccessible, the vessel clamped only with a great deal of difficulty or the tissue so friable that the slightest movement may tear it off or indeed a ligature tight enough to occlude it may cut through. The ligature of the pedicle of the spleen is a good illustration. Fortunately the situation does not often arise and perhaps never in the practice of a master surgeon. But it has happened to me and I make it a practice to leave the clamps on for a few days and removing them when convalescence is established and the vessel is occluded. The practice may serve well in nephrectomies as it has in my hands. An uncontrollable hemorrhage from vascular anomaly about the cystic duct was handled in this manner and the clamps in a hysterectomy for an enormous fixed fibroid once remained on seven days, the patient's life being saved thereby, I believe. I will agree that the practice savors somewhat inadequate or incomplete surgery and I suppose there are no cases in which, with enough persistence and skill, the vessels could not be ligated. But the successful surgeon is one who saves lives rather than performs technical feats.

Pulmonary embolism is nearly always a serious and often a fatal complication and as nearly as I know, nothing a surgeon can do or omit doing has any effect on its incidence. Not long ago I visited a patient who had undergone a thyroidectomy to tell her she might leave the hospital on that, the 5th P.O.D. Within an hour she was dead of a pulmonary embolism. Whether the surgeon accepts such a catastrophe as a malign trick of fate or chastening visit of providence matters little, as under any circumstance, he is helpless. A review of the recent literature on postoperative pulmonary embolism reveals some work by Bancroft and his associates at the Fifth Avenue hospital that offers something as to the etiology, and Walters of the Mayo Clinic has given thyroid extract postoperatively in a large series of cases as a prophylactic. I have used it in a small number of cases but I have no opinion as to its value.

Many of the postoperative pulmonary complications formerly attributed to and diagnosed as ether pneumonia, are no doubt pulmonary emboli or infarcts, or pulmonary collapse. It is doubtful if, and certainly it has not been my exp ence, that local or spinal anesthesia materially reduced the incidence of any of these complications.

Postoperative phlebitis deserves consideration in any discussion of postoperative morbidity. While it is not serious from a standpoint of life, it can result in a most annoying or permanent disability. Probably early movement of the lower extremities, where it nearly always occurs, and maintenance of an active circulation are more or less important in preventing its development but it is doubtful if they are essential.

Only a few of the countless conditions that influence surgical morbidity and mortality can be mentioned. Daily there are presented to a surgeon opportunities to shorten the hospital stay, hasten return to work and lessen the serious social and financial dislocation that surgery and hospitalization bring to most patients. They should always be embraced.

DISCUSSION

A. D. DUNN, M. D., (Omaha): I am not a surgeon, but I wish to discuss this most excellent paper dealing with the physiology of modern surgery. Up to the last 25 years surgery had made its great advances through the development of anaesthesia, asepsis, and by the application of anatomical knowledge to technique. Since that time progress has been made by the application, both before and after operative intervention, of the newer knowledge of physiology and physiological pathology.

Much remains to be accomplished, however, by the more general use of the post mortem in surgical deaths. One must sympathize with the disinclination of surgeons to look into the bodies of their patients who die. The surgeon naturally hates to ask sorrowing relatives to do further mechanical injury to the body of the deceased. Impersonal, sympathetic hospital machinery must be set up to aid in getting autopsies which should help tremendously throughout the years to come in lowering general surgical mortality.

While Dr. Duncan covered the heart problem quite thoroughly I wish to mention the electrocardiograph as a machine that will detect danger in a certain small percentage of surgical cases. It has been amply shown that the mortality is higher in disturbances of the P-R interval, the T-complex, etc. I once saw a thyroid case in which operation was necessary because of tracheal pressure. There was an inverted T-wave in Leads I and III. The operation had to be performed. We discussed the probability of death. The experiment was interesting and instructive. The patient died about 6 hours following the operation—a heart death.

Too little attention is paid to the use of water. It is not at all unlikely that the cases of insolation which Dr. Duncan described might well be attributed to water deficit. The symptoms are the same as those produced by injecting high concentrations of glucose in animals. In this connection complete blood counts before and after operation might be helpful. One of our cases became badly disorientated and behaved very queerly on the second day after operation. Before the operation she had a hemoglobin of 65 and three and a half million reds. Two days after the operation the hemoglobin was 77 with reds 4,000,000. A supply of 2000 c.c. of water intravenously as normal salt and 5% glucose changed the picture in 12 hours. One word in regard to glucose injections. One must remember that the rate the body will utilize glucose is .9 grams per kilo of body weight per hour. When injected more rapidly than at the above rate the glucose spills into the urine. To inject more than 50 grams of glucose at one time is to court unpleasant reactions and waste the glucose.

Surgeons should guard against becoming over-zealous in their application of knowledge gained through physiological experimentation to post-operative treatment. I am sure that I have seen cases that have been deleteriously affected by too much treatment. Too much water and too much glucose may easily be given. Most startling symptoms may arise from excessive water. Blood transfusions, while of clinical value in a certain limited number of cases, are becoming too fashionable. The public likes them. They furnish gruesome subjects for conversation on which certain people dote. It is a stage setting that the layman can easily understand and appreciate. It is hard to rationalize a blood transfusion on a patient with a 90 hemoglobin and 5,000,000 reds, yet I have seen one given under such conditions. The added load of 500 to 750 c.c. of blood to a lagging circulation is not inconsiderable. Twenty years ago patients received little post-operative treatment. The pendulum is now swinging the other way. Now they seem to be in danger of getting too much.

HERBERT H. DAVIS, M. D., (Omaha): There are three points I should like to bring up. First is hemorrhage. My old professor of surgery, Dr. Halsted, considered the control of hemorrhage the most important single factor at an operation. That has been more and more impressed upon me, not only as a matter of life and death, but of postoperative comfort. Practically every case of so-called shock I have seen has really been hemorrhage.

The next point I wish to take up is the case of a patient who runs a temperature of 100° for two weeks following an operation, and then it gradually returns to normal after he has pain and distress on urinating. Most of them are due to small hematomas in the peritoneal cavity. They have distress. You remove the hematoma and the distress is cleared up. Lately I have been careful on this point, and the patients have come along better.

I want to speak about proctoclysis. It has been shown glucose is only to a small extent absorbed in the colon. It has also been shown that glucose by rectum undergoes fermentation. Alvarez has shown that waves are sent out in the intestine in both directions from a point of irritation. The waves reverse with the colon irritation with the use of proctoclysis and the patient has definitely more distress. Within the last eight months, I have quit using proctoclysis in abdominal cases. I give lots of fluids beforehand, and usually after eight hours they can take fluid by mouth. They come along better.

The third point is postoperative lung complications. It has been shown many of these so-called postoperative pneumonias are not the type of the ordinary pneumonia. Most of them start, as a matter of fact, as atelectasis. You get shallow breathing, especially in operations of the upper abdomen. A little mucus settles in the bronchi. Behind it you get absorption of air, causing atelectasis. If it continues, you may have pneumonia develop. That can be avoided, in most cases, by the use of carbon dioxide inhalation such as Dr. Graham spoke of yesterday. I have used it at the Immanuel hospital in all cases this last winter. One was a case with all signs of pneumonia on the right side. A few days after operation, his temperature was 103°. Carbon dioxide inhalation dropped the temperature to normal, and all symptoms disappeared. During the winter, we have not had a single postoperative lung complication in such cases. We use it at the end of operation and routinely three times a day until they are breathing deeply, for the first two days.

DR. DUNCAN (closing): I am grateful to Dr. Dunn for having brought out information that the electrocardiograph will give us.

Surely a water deficit postoperatively is a serious factor against recovery. Many surgeons do not appreciate that glucose is a diuretic. It will do little good to give 10% glucose solution to overcome a water deficit. In addition there must be given large quantities of non-glucose bearing fluid.

Often times glucose given intravenously will be spilled out through the urine, particularly in older people. For this reason I do not often use it intravenously. I am acquainted with the objections some hold to giving solutions of glucose under the skin but I have for many years used 2½% glucose in normal salt for hypodermoclysis and have never had a complication. I have on a few occasions used a 5% glucose under the skin without complication. The glucose does not absorb so quickly and the patient gets much more benefit from it. Often times when the patient is not doing well the surgeon is besieged by relatives and importuned to use transfusion as a last resort when it is entirely certain it will do no good, there having been no severe shock nor any acute blood loss. If used in proper cases blood transfusions will save lives but used indiscriminately the disturbance of the patient may shift the scale against recovery.

Dr. Dunn introduced another point—that of water excess. I have observed that a patient will sometimes regurgitate and may require gastric lavage as long as the hypodermoclysis is continued. If all fluid is withheld for a few hours they will get along very much better.

Many patients, I feel, are disturbed by too much postoperative treatment. It is difficult to overcome the disposition of internist to prescribe freely for the post surgical discomforts, aches, and pains very commonly seen. The great majority of surgicalized patients need only fluids, morphine and time to complete their recovery.

Within the time allotted I could not discuss postoperative pulmonary complications. I once thought that these were less frequent with local or spinal anesthesia. I no longer hold this opinion nor do my records bear it out. Within 6 months I have had a total collapse of the right lung following gastric resection. Within 2 months I have had a partial collapse of the right lung following operation for a suppurative appendicitis under local anesthesia. Within 3 weeks I have had a total collapse of the left lung following a suppurative appendix operation under spinal anesthesia. This latter young man was given 5 minutes of 8% carbon dioxide and oxygen before he left the operating table. He was then given the same dose at 6 hour intervals in his room. Thirty hours postoperatively the interne called me saying he had stopped breathing, was pulseless, and dying. Artificial respiration and carbon dioxide were started immediately and when I saw him, within 20 minutes, he was still cyanosed, but breathing deeply. With an oxygen tent he completely recovered. I feel sure that the carbon dioxide and oxygen saved his life but it did not prevent the pulmonary collapse. I repeat that I do not think that pulmonary complications are materially reduced under local or spinal anesthesia. The majority, I believe, are embolic in origin.

I, also, believe that many postoperative fevers are due to blood clots.

My opinion of proctoclysis is exactly that of Dr. Davis. I rarely use it. One cannot be sure of the amount of fluid that is being retained and the presence of the tube in the rectum often causes distension and gas pains.

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CARDIAC HYPERTROPHY*

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Hypertrophy is usually defined as an increase in thickness of the muscular wall, dilatation, as an increase in size of the cavity. Kirch's measurements showed that dilatation has 2 dimensions, transverse and lengthwise or broadening and lengthening.

Despite this defined difference between hypertrophy and dilatation, they have this in common, that they regularly begin with the effluent path and only gradually effect the affluent path. This was proved beyond doubt by the measurements, but can be seen with the naked eye.

The incipient stages of both dilatation and hypertrophy appear in the terminal part of the effluent paths, that is on the left side, directly below the aortic valve and on the right side, directly below the pulmonary valve. From here the changes advance continuously up the blood stream, until the entire ventricle is changed.

Dilatation is either myogenic or tonogenic. The incipience and further development is the same, and systolic residual blood in the ventricle in question is responsible for both. This residual blood is increased, in myogenic dilatation, because of a failure of the cardiac muscle which is either degenerated, inflamed or indurated, because of resistances to the systolic ventricular contractions by stenosis of either the aortic or the pulmonary valve or by a marked increase of the lesser circulation.

Enlargement of separate segments of the heart in the early stage of cardiac dilatation may be revealed by orthodiagraphs, when the percussion findings yet are normal. A transient increase of the blood pressure during an effort or a permanent increase of the blood pressure in cases of hypertonia, aoritic stonosis and valvular defects, causes resistance of the blood stream. A diastolic increase in the cardiac volume is the response to the circulatory disturbance. The accommodative or physiologic dilatation, in the first instance, and the compensatory dilatation, in the second instance, are phenomena of a latent reserve power of the heart. In cases of an effort, as in sport training, the accommodative dilatation may not be accompanied by subjective disturbances; it vanishes as soon as the effort ceases, leaving the cardiac muscle intact. Also the compensatory dilatation may not cause any important disturbances, for years and even decades. As soon as the maximal limit of the accommodative power of the compensatory dilatation is reached, the cardiac dilatation becomes a "myogenic" one, and is clinically revealed by signs of cardiac stenosis. The myogenic dilatation is primary when lesions of the myocardic are of infectious, hermonal, chemical, inflammatory or biotoxic origin; or are induced by causes effecting the cardiac tous. A regression of the myogenic dilatation may occur if the causal factor was a transient one, as in cases of acute infections or poisonings. Otherwise the cardiac dilatation becomes chronic.

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While the circumference of the heart as a sequel of physical exertion has been thoroughly investigated, this is not the case in individuals whose weight has increased on the basis of adiposity. Such individuals are known to suffer often from treatment. Various explanations have been attempted for the onset of the dyspnea, such as elevation of the diaphragm, a fatty layer over the heart, fatty infiltration of the myocardium, etc. The amount in fat of the heart is increased in adiposity, and great significance has been attributed to this increase for the explanation of an existing cardiac insufficiency. Practically all these patients had dunctional dyspnea.

The answer to the question of hypertrophy or dilatation of the heart has the greatest significance from a medical standpoint in the valuation of athletics. However, one may make the prognosis of a work hypertrophy of the heart, that of a dilatation is much more unfavorable. The question has been much discussed without any conclusion being reached. The question must be answered, however, for athletic persons cannot understand why one half of the profession advocate while the other half condemn strenuous exercise as something valuable. This is all the more necessary since frequently prohibitions and limitations are given by the physician which arise from a misunderstanding of the matter in hand and which violate the good sense of the athletes. When disobedience of the physician's demands has no injurious result the opinion of the physician, not incorrectly, suffers harm.

In examining over 10,000 hearts in pupils and college students during the last three years I found occasionally valvular defects, but accommodative or physiologic enlargement was not infrequent in athletes and gymnasium classes.

How is one to interpret the change in the heart in athletes? To differentiate hypertrophy and dilatation in the living is difficult. Percussion and auscultation are unavailing. According to Romberg, hypertrophy is shown by a raising and widened spical heat. This can be true, however, only when the heart is close to the thoracic wall or when there is a marked degree of hypertrophy. Actually this is rarely observed in very good and long trained athletes although a hypertrophy would be expected. Occasionally the author has seen it in persons in whom the roentgenogram gave no reason for suspecting a hypertrophy. Even the roentgen ray aids little in differentiating hypertrophy and dilatation.

Since there are no clinical means of differentiating these, one must pass to others. No one denies the possibility of work hypertrophy. Starling has stated that every heart which has to work with great volume must hypertrophy. Actually, however, the heart of athletes works with a greater volume during work—apparently also while at rest. The extraordinarily great use of oxygen in strenuous work could not be explained without an increase in the pulsation volume. The enlargement of the pulsation volume can only occur in that the heart in systole expels during body work the greatest portion of the residual volume present during rest, i. e., completely contracts.

Hypertrophy of the heart does not of itself cause any appreciable functional disorder unless perhaps an occasional fullness in the precordial region. As for the increase in the force of the beats, the pounding pulse and the flushing of the face with headache that some writers connect with cardiac hypertrophy, they have nothing to do with it. It is only the physical signs that enable us to recognize hypertrophy of the heart.

On inspection, there is often seen a bulging of the precordial region but only when the increase in size affects the left cavities. Even in this case, it may be only slightly noticeable in adults though it is almost always quite prominent in young subjects because of the flexibility of the thorax.

With the left ventricular hypertrophy, the apex is displaced downward and beats in the sixth space, less often in the seventh. When the right cavities are hypertrophied the apex is displaced downward also but at the same time it is displaced outward in the axillary region. In this case, we know that the hypertrophy is accompanied by a notable dilatation.

Of all the methods of exploration, the radioscopic examination furnished the most exact information.

I am advised by insurance medical directors with regard to prognosis of hypertrophy with and without a systolic murmur that mitral regurgatation with hypertrophy, for all ages, gave a mortality of 246 per cent and with no appreciable hypertrophy gave 174 per cent.

With regard to the so-called functional heart murmurs, their experience showed that these murmurs as described gave a mortality at the ages 15 to 24, of 100 per cent, and this mortality was a great deal higher than the average mortality of the company, so that even at the ages 15 to 24 the so-called functional heart murmur cannot be as lightly regarded for safety, in insurance work at least, as many physicians seem to view it. At the ages 25 to 39 the mortality was 94 per cent. The reason for the mortality in this age group being somewhat smaller than the one previously given is very possibly due to the group being small or (what may be more likely) is the selection may have been somewhat more rigid, owing to increase in age.

Over forty, the mortality was 135 per cent. Evidently the so-called functional heart murmur after the age forty given an experience which makes the probability of the systolic murmur at the apex being functional a very doubtful possibility. Even with these functional heart murmurs, 22 per cent of the deaths were due to heart disease, and fourteen of the group analysed entered under the age forty.

They do not believe that any reasonably conservative company would be willing to consider either mitral stenosis or aortic regurgitation, with apparent hypertrophy on examination, nor would they be willing to consider any murmur with a history of acute articular rheumatism as functional, as cases with a history of rheumatism have shown a distinct increase in mortality. Companies have found that mitral regurgitation with rheumatism, with little or no hypertrophy, gave a mortality of 299 per cent, and with moderate hypertrophy a mortality of 455 per cent. By moderate hypertrophy is meant the apex beat at the midclavicular lime, in the fifth interspace; slight hypertrophy, one-half inch inside the mid-clavicular line. Mitral regurgitation, with well marked hypertrophy, gave a mortality for all ages of 225 per cent.

There were no figures available as to the per cent of cases of mitral regurgitation in which examiners report hypertrophy but my guess would be that hypertrophy is reported in less than five per cent of recognized spical systolic murmurs with or without transmission to the axilla.

I have a medical friend, who is connected with a large life insurance company, who presented the following figures:

Many years ago, when we first began to issue substandard policies to cases of this sort, we believed that the condition described as "mitral regurgitation, slight hypertrophy, heart well compensated" would permit quite a marked rating. Unfortunately, we learned to our sorrow that the extra rating accorded was not nearly half enough, and that these cases began dying promptly and particularly under age 40, so we were obliged to very materially increase the extra premium charged in these cases. A recent study of the combination of the following has been made, namely:

Apex murmur, systolic, constant, not transmitted to the left.
Apex murmur, systolic, constant, transmitted to the left.
Apex murmur, systolic, constant, transmitted to the left with history of rheumatism and other infectious diseases.
Apex murmur, systolic, inconstant.
Apex murmur, systolic, not clearly described above.
Mitral regurgitation, not clearly described above.

Of these there was in the experience 69,145 policy years of exposure; expected deaths, 326.68; actual deaths, 609, mortality ratio 186%.

I may state that while hypertrophy is rather frequently reported in connection with heart murmurs, I am sorry to say that our examiners very rarely report hypertrophy without heart murmur. This may be partly due to the fact it is not easy to make a diagnosis of a slight hypertrophy unless it can be checked up with a teleroentbenograph. Accordingly, wherever they are in doubt, they report the heart as normal.

The Heart Council is inclined to view myocardial hypertrophy, particularly where it is associated with occasional precordial twinges of pain, a history of dyspnea on exercise, morning cough, indigestion and perhaps some swelling of the ankles at night, as being significantly diagnostic of beginning myocarditis. They hope to follow up these cases and make reports on these persons later on.

While many practitioners now look lightly on the importance of apex systolic murmurs, insurance experience appears to indicate that they are always pathological and have a distinct bearing or longevity. Our results along this line are such that we do not write standard insurance when a true valvular murmur exists. Incurrence statistics have been carefully tabulated, and, as I have already remarked, they indicate that applicants presenting any kind of true heart murmurs cannot be regarded as standard risks.

I have a feeling in my mind that the presence of physical findings significant of enlargement of the heart, without evidence of dilatation—and by such physical findings I refer particularly to location of the apex beat, the character of the apex beat, and findings or precussion—that such findings of slight enlargement are at least evidence of some under-lying diseases reasonable for the enlargement, which will eventually cause trouble. From an insurance standpoint this is probably significant; from the standpoint of patient its significance in itself is questionable. If the systolic murmur is a symptom of rheumatic heart disease, then the cardiac enlargement and murmur are parts of the same condition. If the systolic murmur is found at the apex with definite enlargement of the heart, but without a history of rheumatic or syphilitic disease or without the hanging heart of general visceroptosis, then it probably signifies a relative mitral regurgitation. But a systolic murmur at the base is without any such significance.

DISCUSSION

H. J. LEHNHOFF, M. D. (Lincoln): Mr. Chairman: I appreciate this paper from many standpoints. The first is, I do not believe we have a more important physical evaluation than the question of enlarged hearts. Personally, I should not want to determine whether it was hypertrophy or hypertrophy and dilatation. That is a difficult problem. With me, it is a sufficient problem to find out, without paying attention to the cause, whether the heart in the individual before me is enlarged. I think it is a difficult thing in a certain class of patients coming to you often to determine whether or not that particular heart is competent, or approaching incompetency.

We have a lot of individuals coming to our office for examination who can be divided into three classes: (1) Those who come in for physical examination, without symptoms. (2) Those who come in with symptoms that might be referable to a cardiac condition, such as weakness, tiring easily, headache, etc. (3) Those who come in with no symptoms, but who have been told that a systolic murmur was present. I think it is difficult to determine whether or not the heart is all right, in many of these cases. If I find a heart is enlarged, I immediately conclude that that heart is abnormal. That is one of the few things I do know. They commonly complain of pain in the cardiac area. They note a rapidity of the heart action, etc., etc. There are a number of conditions peculiar to certain individuals where we have a number of symptoms and physical findings. However, we do not know absolutely whether all or any of these symptoms or signs are based upon cardiac pathology. But when the heart is enlarged we can always be fairly definite. An enlarged heart always means cardiac pathology. It is sometimes difficult, by using physical examination alone, to determine that enlargement. Dr. Pinney has presented this point well. I am governed by the location of the apex and the character of the apex-beat, more than by other findings.

It would be very satisfactory to take all these patients before the x-ray, but not all of them can stand the price of an x-ray.

Now comes the same old question of systolic murmurs. As Dr. Pinney has pointed out, it is the opinion of a great many men that we must not place too much significance on a systolic murmur, with no other findings, and no past history. If we have a systolic murmur in the presence of a history of acute inflammatory rheumatism or St. Vitus' dance, it is a different proposition. If we have a systolic murmur with no past history or other physical findings or symptoms, I quite agree with the great majority of heart men that the finding of a systolic murmur alone does not mean a great deal.

You will remember the excellent discussion of Dr. Farr before this assembly in Lincoln a year ago, in which he pointed out many factors which cause systolic murmur. I think you have all had the experience of finding a patient with systolic murmur, whom you have had on your hands for fifteen years or more and who has never been sick from heart failure. You have all had the experience of having an individual who had visited a physician twenty years previously in whom a systolic murmur had been found, and yet when he visited you was not suffering from cardiac pathology. Surely if it were caused by cardiac pathology twenty years ago, we ought to be able to find it twenty years later.

I was called to see a patient eighty years old, in whom a Lincoln practitioner had diagnosed a systolic murmur forty years ago. He said the patient had only two or three years to live. I was called to see the patient, not because of any circulatory symptoms but because of a facial paralysis. There was a heart murmur there, a long rough systolic murmur, but I do not think it meant anything.

As regards insurance companies, remember that they are not caring for an individual clinically. They consider him from an entirely different standpoint. They do not consider each patient as we do. All patients with systolic murmur are placed in one group and those giving a history of rheumatism are placed in another and thus are judged according to the statistical studies of this particular group.

Permit me to repeat some figures given by Dr. Campbell, Medical Director of the New York Life Ins. Co. He states that if 1,000 individuals are insured at the age of 25, who are standard risks, that is, without abnormalities, that the company expects 96 deaths in this group in the following 20 years. If a similar group of 1,000 are insured who are normal in every respect except that they have a slight hypertrophy of the heart, 140 deaths are expected in 20 years. If in this same group there is a moderate enlargement of the heart, about 200 deaths are expected. Dr. Campbell further states that in this same group, if there is the additional findings of a systolic murmur at the apex transmitted to the axilla commonly diagnosed as mitral regurgitation, the same figures obtained. That is the mortality rates of individuals having slight hypertrophy are the same as the mortality rates of individuals having slight hypertrophy plus apical systolic murmur.

ADOLPH SACHS, M. D. (Omaha): I believe the subject of cardiac hypertrophy is a timely one, and Dr. Pinney has covered the subject in a careful and able manner. Cardiac hypertrophy unless well marked is often one that is difficult to determine. No two men will exactly agree on the exact size of a heart when percussion alone is used. Othrodiography is one of the best methods of determining cardiac position and size. Another method of value is by taking a seven foot plate and then, if accurately measured, the right side plus the left side should be less than one half the internal diameter of the chest.

The position of the apex beat is not always an accurate means of judging cardiac hypertrophy because in some cases of mitral stenosis the apex beat is not greatly displaced.

Adhesive pericarditis often causes great cardiac enlargement and should always be though of in doubtful cases.

Systolic murmurs are of no importance unless accompanied by some hypertrophy. Insurance companies stress more importance on systolic murmurs than our best cardiologists.

I think we should pay a great deal more attention to rheumatism than we have in the past because it is a chronic disease similar to tuberculosis and syphilis, and should not be treated lightly. Far too little rest is given these cases and often times serious heart lesions result from our neglect.

Rheumatism may be readily compared with syphilis. In syphilis we have the initial chancre, soon the secondary eruptions and then fifteen or more years later we get vascular and heart lesions or disease of the central nervous system. In rheumatism we have a tonsilitis followed by joint symptoms and then our eruption as erythema nodosum. Fifteen years later we find a mitral stenosis. If we would take better care of our rheumatic children, less cardiac complications would follow.

I wish to compliment Dr. Pinney on the excellence of his paper.

FURTHER OBSERVATIONS ON THE TREATMENT OF PNEUMONIA*

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In a former paper(1) read by title before this body in 1914 and published in the *Western Medical Review,* I reported eight cases of lobar pneumonias treated by means of salicylates, all of which recovered, and the fever in which terminated by lysis. In the same paper I referred to Solis-Cohen's work with quinine in the treatment of pneumonias and to Wright's and Morgenroth's works with quinine derivatives. such as optachine or ethyl hydrocuprein.

In this paper I wish to report my subsequent experience and observations in the handling and treatment of pneumonia. To go into detail in all the methods of treatment is beyond the scope of this paper. Principally, I wish to emphasize the early treatment by means of drugs, or, if you please, the chemotherapy of pneumonia.

In recent years the medical literature abounds in articles on pneumonia but more particularly regarding its biological aspects. Thus our knowledge of the pneumonias has increased considerably during the last seventeen years. The classification in 1913 by Dochez and Gillespie(2) of the pneumococcus into four types has placed the serum treatment on a more scientific basis. There is now no question but that type I serum should be given to type I pneumococcus pneumonia provided the serum is available and the diagnosis is made early. Cecil and Plumber(3) and others(4) have shown conclusively that the Felton serum or antibody solution is of great value if given early in type I pneumonia. But in order to diagnose a type I pneumonia one must have quick access to a modern laboratory and, as a rule, a country physician does not have such available near at hand. To use serum after a typing report can be secured would make it of little avail. If we are to rely on serum treatment we must have a polyvalent serum that is still potent enough to combat the disease and even then it would be of doubtful value as no serum at present seems to be of any value in types III(5) and IV. These types seem to be composed of many varieties each having probably a specific action.

In view of these problems and in face of Solis-Cohen's continued work with quinine, we give too little heed to his arguments. To take the attitude of my former professor in therapeutics, who stated that all you can do for a pneumonia is good nursing and stimulation as you approach the crises, even leaving serum and oxygen out of the picture, is, in my opinion, wrong.

In my twenty-one years of practice I have treated, I presume, my share of cases of pneumonia. My records are not complete nor well classified but as far as I can determine I have treated some fifty cases of lobar pneumonias and something over a hundred cases of all types of pneumonia. Until the year 1922 I had not lost a single case of the lobar type and only two cases of complicated pneumonia in children, together with two terminal cases in the aged. I was very proud of my record. In 1922 there was a very virulent type of infection prevalent. I treated a large number of cases among which were five cases of empyema. I lost two cases of broncho-pneumonias in children that year and my first case of the lobar type. My pride abated considerably during that time. However, considering the large number of severe cases treated. including the five cases of empyema, all of which recovered, even this is a reasonably good record.

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*Read before the annual meeting, Nebraska State Medical Association, Omaha, May 12-14, 1931.

My pride has further abated within the last few years, and expecially recently, when I lost a case of the lobar type in a robust man of forty-seven. To state that there were extenuating circumstances is not convincing. There always are in the cases we lose. This man had a chill on Saturday morning. He subsequently went to work and made fire at his place of business, then went back home and remained alone for the next thirty hours. He stated that after he returned to bed he chilled for two hours. He had just recently gone through a siege of colitis which had now recurred. He dragged himself up and down the stairs six times to attend to his toilet needs. When I first saw him his temperature was nearly 104 and his pulse 140, systolic blood pressure 110. I was very loath to assume charge of the case. He was given full doses of salicylate the first twenty-four hours, first acetylsalicylic acid by mouth and later, because of vomiting, sodium salicylate intravenously. The temperature came down to 99, pulse to 100, and systolic blood pressure came up to 120, diastolic 80. After twenty-four hours the treatment was switched to quinine intravenously. For two days the temperature remained around 100 and the prospects looked favorable. However, he developed tinnitus and I feared pushing the quinine. He developed a severe pleuritic complication, kidney involvement, and died in spite of glucose, digitalis, Felton's serum and oxygen.

Two years ago I lost another man from lobar pneumonia. I saw him Friday noon lying on a couch complaining of a severe headache. I ordered him to bed against his protests. He was one of the janitors of our schools and stated that he must go back and finish cleaning. He went against my emphatic orders, warning him of the danger of pneumonia. On Sunday morning I was again called to see him. He was delirious and had developed a lobar pneumonia. He never regained consciousness. My opinion is that he had a meningeal involvement but I did not prove this as the consultants opinion was against a true meningitis and he did not feel that a lumbar puncture was indicated.

I have lost three other cases which might be considered lobar pneumonia. One was a young high school senior of about eighteen. He did not respond well to salicylate treatment. He developed pneumonia following an attack of influenza and died in a chill subsequent to having glucose solution intravenously, which was prepared by the consultant's druggist.

The other two cases were elderly people. One was a brother physician who had a septic infection in the nose. He was sixty-seven and had suffered from an angina several years. He had no chance with a pneumonia. The other was an old lady of seventy who developed pneumonia after an attack of influenza.

This makes five deaths in about fifty cases. Cecil and Plumber(3) give a death rate of 11.7% in cases of type I lobar pneumonias treated by Felton's serum within the first 72 hours from onset. In later cases the death rate is about 20%.

Last fall a tenant of a wealthy landowner in our community developed a fairly severe pneumonia. The landlord called me up and stated that he was worried because his father died from a pneumonia. He asked if I had the treatment well in hand and if I did not want to move the patient to the hospital. I replied that we don't lose many pneumonias out here in the country and that I did not believe in moving a patient to the hospital. We made an appointment to meet at the farm the next morning. When we arrived the patient was very much better and we were both satisfied. The patient was at this time on full dose of quinine having first been on acetyl salicylic acid. His fever receded by lysis and he made an uneventful recovery.

One purpose of accepting a commission in the army was the hope of being assigned to a base hospital and trying the salicylate treatment there. I was unable to secure assignment to a base hospital until the war terminated. Then I made a request to Major Willard E. Stone, formerly of Toledo. now of Hollywood, who was head of the medical department of the Base Hospital at Fort Riley, to be assigned to a pneumonia ward and try my treatment. He had just instituted a routine digitalization of all pneumonia cases as soon as diagnosis was made. He was very proud of this treatment, and stated that in the final analysis he would be responsible for the outcome and refused to let me experiment. His death rate, if I am not mistaken, was between thirty and forty per cent.

I was later assigned to two scarlet fever wards. At one time I had under my observation eighty cases of scarlet fever, all of which received salicylate and citrate, being carefully watched. Three cases developed pneumonias during my three weeks of service in these wards. All of them recovered from their pneumonias although one later died from Ludwig's Angina. This was the only death I had from any cause during this service. The other two cases of pneumonia were of a severe type. One developed an empyema. The other was practically moribund but recovered under isolation and the care of a special nurse. I regret very much my inability to try the salicylate treatment on a larger scale.

I had, personally, the good or bad fortune to go to the hospital previous to this with influenza, and what was diagnosed as a lobar pneumonia. When I went I filled my pockets with acetyl salicylic acid and used it freely. I remained in bed six days and in the hospital eight days, going back to work with my regiment the day following my leaving the hospital.

A few years ago I listened to a paper on pneumonia before this body by Dr. F. H. Wells(6) of Axtell, Nebr. He advocated the use of quinine as a prevention and cure of pneumonias, citing his experience both in army and private practice. His record was excellent but apparently little heed was paid to his arguments. I did hear a short time later a statement by our honored dean of the profession in this city, Dr. J. E. Summers. He stated that he wanted to be a physician as well as a surgeon; that he gave certain of his postoperative cases quinine in order to prevent pneumonia. I have since followed his example with good results.

What is the answer to the marked difference in mortality between a country and a hospital practice? No doubt the massing of a large number of cases in a hospital is bad practice. The bacteria travelling in rapid succession from one patient to another become very virulent. I noted in the army that the early cases of influenza returned to their organizations in three to five days. Soon, however, the story was different. A large number of cases developed pneumonias and the death rate was very high.

Without doubt, regardless of treatment, the death rate of pneumonia is smaller in the country than in the city or hospital practice. Nevertheless I firmly believe that if a less nihilistic attitude were taken toward chemotherapy by specialists and other hospital staffs the death rate could be lowered even in the cities. Solis-Cohen(7) claims to have reduced the death rate from 40 to 20 per cent. Beckman(8) in commenting on Solis-Cohen's treatment, repeats, "I use the word *claims* advisedly but by no means in a derogatory sense." Beckman gives Solis-Cohen credit for a well planned treatment.

This treatment includes: (1) Full dose of quinine, 10-15 grains initial dose intravenously and following up with subsequent oral administrations in sufficient dosage to keep the temperature normal if possible. (2) Strict attention to the pulse—blood pressure ratio and giving 1 cc. surgical pituitrin if the systolic blood pressure stays below the pulse rate. (3) Digitalis is given in five minim doses of the tincture t. i. d. as a routine in order to make the heart more sensitive to further digitalis should the occasion arise.

In my mind there is no doubt of the fact that Solis-Cohen has a superior method for handling pneumonias. Beckman(8) gives him credit for this if other authorities(9) don't.

Personally I am unable to get the patient to tolerate as much quinine as Solis-Cohen gives. perhaps I am too much afraid of toxic symptoms.

The following is my present line of treatment: (1) Full doses of salicylates, usually starting with acetyl salicylic acid, if the patient is able to take it orally. In an adult this means about fifteen grains every two or three hours. If he is unable to take the salicylate by mouth sodium salicylate is given in one to two gram doses intravenously or in two to four gram doses rectally, repeating as often as indicated. (2) If the fever and other symptoms are not under control in 24 to 48 hours quinine is substituted for salicylates. It is usually given orally in about six grain doses, every three hours, or, if oral administration is impracticable, it is given intravenously in ten grain doses as often as indicated. In cases of children it is given in the form of cocoa-quinine which they usually take readily. (3) Some form of alkali is also used, usually the citrate of sodium or potassium is the best. This is also given in full doses, usually about 30 grains every 3 hours. (4) Symptoms are treated as they arise. Digitalis is seldom needed and not used as a routine. Routine digitalis is contraindicated as shown by the work of Wyckhoff and his associates(10). Expectorants are seldom given early nor are these needed; the salicylates or quinine control the cough as a rule. They also give the patient rest in most cases. Aromatic spirits of amonia is simetimes given for cough if indicated. Small doses of morphine may be needed for rest in a few cases. (5) The bowels are kept open by some mild laxative. Often a mild saline in the morning is given. If this is contra-indicated enemas are depended upon. In the later stages, calomel may be needed for distension. (6) Pleuritic pain is relieved by mustard plasters and sometimes, where available, diathermy is used. (7) The diet is liquid during the stage of pyrexia. Fluids are pushed as far as possible. (8) Strict attention is paid to nursing. Alcohol rubs are given for perspiration. The patient must not be allowed to cool off in wet clothing. The room is kept well ventilated but not cold; the temperature should be about seventy degrees, and higher when the patient is uncovered. The patient should be disturbed as little as possible. (9) Where the abortive treatment fails any means available are used, digitalis and caffine for the heart, antibody solution or serum for the toxemia, oxygen for the cyanosis, intravenous glucose, etc.

There are other drugs besides quinine and salicylates used to abort pneumonias. A few of these I mentioned in my former paper. Since then two others have been used that deserve some mention.

Oerting(11) uses potassium permanganate rectally and reports a low mortality rate in a series of cases.

A number of reports, chief among which is that of Hoppe, Goldsmith, and Freman(12) on the use of mercurochrome intravenously have been made. A fairly large number of cases so treated have compared favorably with the untreated. I have no experience with either but believe the former to be less effective and the latter more severe than treatment with quinine or salycilates. In my former paper I gave the reference to one other writer reporting the use of salicylic acid effectively(1). As far as I can find, only one other author has reported on the use of salicylates. Nyvall(13) of Chicago reports in 1929, twenty-six cases of pneumonia treated by means of calcium chloride and sodium salicylate injected intravenously. He also claims better results with this treatment than in cases where serum is used.

SUMMARY

1. Chemotherapy is effective in shortening the course and lowering the mortality in pneumonias.

2. While serum for type I lobar pneumonia is proper when the case is typed, treatment should not be allowed to wait during the typing.

3. Salicylates and quinine are both effective in combatting the disease.

4. Other chemicals such as mercurochrome potassium permanganate may be of value in the treatment of pneumonias but need further trials to prove their worth.

5. Oxygen(14) and digitalis may be life-savers in certain cases but are not indicated as a routine.

6. Strict attention to nursing and hygiene are of prime importance in the handling of pneumonias.

7. Ordinarily a pneumonia patient should be allowed to remain at home rather than be moved to a hospital where there is always more danger of a mixed and more virulent infection.

REFERENCES

1. On the Abortive Treatment of Pneumonia, Western Medical Review, Nov., 1914.

2. Rochez, A. R., and Gillespie, L. J.: A Biologic Classification of Pneumococci by Means of Immunity Reactions, J. A. M. A., 61:927, (Sept. 6) 1913.

3. Cecil, R. L., and Plummer, Norman: Pneumococcus Type I Pneumonia, J. A. M. A., 94:1547, (Nov. 22) 1930.

4. Sutliff, W. D.: Type I Lobar Pneumonia Treated With Concentrated Pneumococcus Antibody (Felton)—The Clinical Course, J. A. M. A., 96:1465, (May 2) 1931.

5. Bulkowa, Jesse G. M.: The Serum Treatment and Its Evaluation in Lobar Pneumonia, Bulletin of the New York Academy of Medicine, 199:1250-1261.

6. Wells, F. H.: The Nebraska State Medical Journal, 1925.

DISCUSSION

A. D. DUNN, M. D. (Omaha): We die of the diseases, the treatment of which we do not understand. So is the case with pneumonia. There are many methods of treatment and much discussion, but only in matters of management and symptomatic treatment is there agreement. Dr. Swenson has brought to us his experiences in treating some 250 cases of pneumonia with salicylates and quinine. His mortality has been low, his results excellent. Yet it is unfortunate that he has not been able to put this treatment to the acid test of the controlled experiment in which in a large series of cases alternate patients are used as controls in the same epidemic and under the same conditions. Furthermore we cannot commend too much the wisdom Dr. Swenson has used in the general management of his patients.

The serum treatment of pneumonia has not come up to expectations. It is the general concensus of opinion that the value of pneumococcic serum is largely limited to Type I pneumonia. In the Rockefeller Institute, working under the best of conditions, the lowering of mortality was from 20% (low estimate) to 10.7% by its use and that in a hospital that has a set-up that none of us can hope to approach. The Bellevue Hospital series is not so good, where the percentage has been lowered from 33% to 19%. We so rarely see cases of Type I pneumonia in this region that it almost makes the use of serum a thing of minor importance. One cannot use it routinely because of its expense and the machinery is not generally available for twelve hour typing.

I wish to mention the oxygen tent in the symptomatic treatment of pneumonia. In pneumonia cyanosis is usually a harbinger of trouble if not of death. The change of load on the respiratory apparatus of an individual with cyanosis is the difference between breathing at sea level and at 12,000 feet. This load can be removed by the use of the oxygen tent. We have used it in a number of cases. There is almost immediate relief of symptoms. It is not a curative treatment. Most of the cases have died because they were severe, but relief has been striking and life has been definitely prolonged in a self-limited disease.

A recent report by Dr. Avery of the Rockefeller Institute on pneumonia might be of interest. It is well known that virulence of pneumococci is a factor of the toughness of the capsule or "shell". Avery has found that the toughness of the capsule is a question of the presence of certain glucosides. An enzyme was obtained from bacteria occurring in peat moss that would attack these glucosides and thus destroy the "shell" of the pneumococcus, which prevents phagocytosis. Slides showing marked phagocytosis of pneumococci that had been treated with this enzyme, as contrasted with the absence of phagocytosis of pneumococci not so treated were impressive.

In closing I wish to stress the importance of the common cold. Colds are the stuff of which pneumonias are made. In my opinion more can be accomplished today in a preventive way by the treatment of the common cold by rest, by warmth, etc., than by any other measure.

ADOLPH SACHS, M. D. (Omaha): Mr. Chairman: I am indeed sorry that I came in late and hence did not hear all of Dr. Swenson's paper. I believe that the virulence of the pneumococcus varies in different seasons, and hence some years all cases of pneumonia get well irrespective of the kind of treatment, and in other years many cases died. Type III pneumonia is often fatal because it attacks both extremes of life—the old and the young. The prognostic value of bacteremia in pneumonia has been stressed by some authors, but is often of little value in Type Three cases.

Dr. Dunn mentioned the oxygen tent and I also wish to recommend its use as a symptomatic treatment. We have used it whenever possible, and find that it unquestionably is of great aid in the treatment of pneumonia.

The author has stressed many valuable points, and I wish to compliment him on his paper.

DR. SWENSON (closing): I wish to thank Dr. Dunn and Dr. Sachs for their discussions.

It is interesting to hear Dr. Dunn's statement as to the type he has encountered—mostly Type IV. In that type, serum is of no value. I have not been able to type my cases, but have seen no value from serum treatment. Perhaps my cases have been mostly Type IV.

In regard to the capsule, it is of interest to note that Type III is thicker than other types. That makes Type III more virulent, and no serum is available in that type. Type I is the only type in which serum has demonstrated itself to be of value.

As Dr. Sachs said, the virulence varies with different seasons. In 1922, we had a virulent type of infection. I had had three cases of empyema in my entire practice, up to that time. That year I had five cases. All recovered.

Dr. Dunn's statement as to prevention treatment is very important. I did not incorporate this phase of the subject in my paper. It is worth more than the treatment of the pneumonia itself.

I am of the opinion that pneumonias can be prevented by means of bacteria vaccines. At Fort Riley, I am not sure whether all the regiments were inoculated by pneumonia vaccine, but some were. As far as we could determine, the number of cases that went to the hospital after the inoculation were reduced. I have used vaccines to prevent colds. That is not scientific, according to the latest reports. I believe those cases vaccinated against colds do not develop pneumonias and when vaccines are used to prevent pneumonias, the direct vaccines have a larger percentage of pneumococci and hence, of course, are better.

A SUGGESTED ETIOLOGY OF ERYTHROMELALGIA*

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Erythromelalgia has been considered a disease of infrequent occurrence. It was first described by S. Weir Mitchell(1) and often referred to as "Mitchell's Disease". Recent attention to the subject has led to a clearer understanding of this disease in addition to several other more or less similar conditions such as other vascular disturbances of the extremities. This summary of the possible etiology of Erythromelalgia also suggests a probable explanation of the circulatory reactions to various drugs, foreign proteins, and bacterial toxins.

Erythromelalgia occurs more often in the male than in the female and, while it has been found at all ages, males in the second decade and females in the third decade seem to be the most susceptible. The suggestion is offered that the probable explanation is that the most strenuous work is done at these ages, respectively. To avoid repetition, a full description of the symptoms is given in the following case history.

Correct diagnosis is important chiefly from the standpoint of rational treatment. For this same reason, it is highly important that the etiology be discovered. The *sine qua non* in a differential diagnosis is the presence or absence of pulsation in the vessels proximal to the lesion. It is stated that if this can be definitely determined, the percentage of error will be only about ten out of a hundred. In this syndrome, the pulsations are *always* present in the popliteal, posterial tibial, and dorsalis pedis arteries. Gangrene is *never* present in any case.

After a careful study of all the case histories available, the following were found to be the most usual preceding factors: (1) constitutional febrile diseases; (2) long-continued muscular exertion, especially where some undue local strain and some element of shock are involved; (3) exposure to temperature variations, particularly where moisture is a factor; and (4) venereal disease. It is questionable whether the hypotension usually found is a cause or a result. The syndrome is seen to some extent in "writer's cramp". Of particular interest is the finding by Money(2) that during constitutional febrile disease there is always some adrenal injury resulting in hyposecretion of the substance, the chief purpose of which is to maintain capillary tonus. It is also interesting to note that of Mitchell's sixteen cases, forty-four per cent gave a fairly recent history of such febrile disease. In practically every case where a thorough history was taken, there was found to have been periods of long-continued muscular exertion and fatigue and usually accompanied by a fair degree of local trauma engendered by the occupation. It is my impression that such exercise, under the circumstances mentioned, favors an increased local output of histamine, which in minute quantities is a normal metabolic product of every body-cell. This substance has much more of an effect than has adrenalin, in that it requires a 1:30 solution of adrenalin to overcome the effects of a 1:20,000,000,000 solution of histamine(3). Being antagonistic to adrenalin in its action, the effect of histamine is a local vasodilatation of the capillary vessels. This would stimulate a compensatory reaction of the adrenals, thus further damaging an already weakened mechanism. This capillary dilatation, being of an extreme nature, goes beyond physiological limits so that the reactive response of the tissues in their endeavor to preserve the local tissue economy is seen in the pain reaction. Persistence in this vasodilatation causes a blood-stream stasis and results in the formation of edema by diapedesis. In cases where there are present toxins of bacterial or protein origin, as in the constitutional febrile diseases, or in over-production of tissue metabolites such as would take place in excessive or long-continued muscular exertion, local deposits might be attracted to this area. This would very likely be true where such a condition be superimposed upon atonic capillaries.

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*Abstract of article which, with complete bibliography, is on file at the University of Nebraska College of Medicine at Omaha, Nebr.

Such a consideration of the capillary circulation envisions a large field in the study of ill-health. From this point of view, it may be inferred that any particular organ or part of the body, where this condition prevails, becomes much more readily exposed to the attack of disease organisms or toxins, which may be present in the body, than it would under normal conditions.

It has long been quite generally known that the effects of adrenalin and histamine on blood capillaries are antagonistic. In view of such capillary atonia as above discussed, the only logical thing to do in this case would be to give adrenalin in some form or other so as to lighten the requirements of the over-worked adrenals. Almost every form of treatment has been tried from local cold packs to amputation, but that of adding adrenalin to the system seems to give the most relief. The effect seems similar to that of giving insulin to an overworked or inactive pancreas. The prognosis depends, of course, on the degree of adrenal injury and its recuperative ability.

The pathological findings in Erythromelalgia, as determined by the few case reports on record, seem to be chiefly confined to a thickening of the intima with some thickening of the media in the walls of the blood-vessels involved. The nerve fibers seem to be of normal appearance, any changes such as connective-tissue overgrowth or degeneration usually being considered to be secondary to a lack of nutrition, although this is disputed by some.

CASE REPORT

Clarence V., a white male, aged 24, is a telephone lineman by trade. In his work he is obliged to spend various lengths of time standing on his "hooks", or pole-spikes. These are so constructed that he is forced to support his whole weight at such times on a narrow steel band beneath the sole of each foot. This not only causes a narrow zone of increased pressure, whereby the plantar circulation is stopped and the load thrown onto the anastomotic arteries from the dorsalis pedis, but it also puts the feet and ankles into an unnatural and cramped position. His work also encouraged the practice of descending a pole "in three or four jumps" and thereby causing tremendous shock to this part of the foot.

The patient presented himself at the University Hospital Dispensary on November 30, 1929, complaining of swollen and painful feet. Although it was a cold, snowy morning, he was wearing only light socks and loose rubbers on his feet because of their extreme sensitiveness to pressure and increased heat of the skin. He stated that even the pressure of the bedclothes was too painful to allow covering of his feet at night. The pain was described as being of a burning character, at times "thumping like a toothache", but more usually of a steady nature. It became much worse at night, especially when he was about to doze off to sleep, and as a consequence he had lost considerable sleep. The pain had increased to such a point that he said he "would much rather die than to endure it any longer." Walking, weight-bearing, or even allowing the limbs to hang down caused him such pain that beads of sweat stood out on his forehead. Heat of any sort increased the pain and cold relieved it. Elevating the feet and legs also relieved it. Having found this out, he had spent most of his time bathing his feet in cold water and keeping them elevated as much as possible. The redness and swelling always came on closely following the burning sensation which heralded an acute attack. He had never noticed any other changes, such as blistering, ulceration, anemia, or gangrene.

This condition began two weeks previously, being first noticed when he attempted to walk, following a six-weeks' confinement to bed with typhoid fever. During this time, he said, he had run a temperature of 105° F. several times and had also had intermittent nosebleeds which had become a daily occurrence for the last two or three weeks of his illness. When he got out of bed to walk, he noticed an itching and burning sensation, first in the toes and then in the volar arches, followed by redness and swelling of the dorsal surfaces of both feet as high as the ankles, with extreme pain and tenderness on weight-bearing. This was only to be expected, he was told, so thought nothing of it until, instead of improving, the condition became rapidly worse.

Previous illnesses, aside from the recent attack of typhoid, consisted of diphtheria when a child, a near-fatal attack of influenza during the 1918 pandemic, a severe attack of influenza a year ago, and an acute quinzy six months ago. During the attack of typhoid he lost fifty pounds in weight and afterward had a nocturia of two to three times a night.

Physical examination showed a young man of average size wearing an intelligent though pained expression and who comported himself with every show of solicitude for his feet. Examination of these showed an extreme redness of color and a puffy, edematous appearance. The ankles and dorsal surfaces of the feet and toes showed pitting on pressure, were hot and moist to the touch, and were extremely sensitive to pressure or stroking. Dependency caused an accentuation of the color and swelling which was preceded by an increasing, burning pain. The color began first on the lateral borders as a dull red which rapidly changed to a bright red going on to a distinctly cyanotic or dusky hue. It appeared almost as soon on the toes and then spread to the volar arches and dorsal surfaces as high as the malleoli. The veins became engorged and the pulsations of the dorsalis pedis could be seen. The pulse here and over the posterior tibials was felt to be fast and pounding. Elevation of the legs to a 180° angle alleviated the above symptoms almost at once, although the limbs did not become ischemic.

The general physical examination showed some wasting of nutrition, infected tonsils, and several carious teeth. The heart, lungs, and abdomen were normal and there were no areas of numbness and no reflex or neuritic disturbances. The patient denied ever having had his feet frozen or frost-bitten and said he had never experienced rheumatism or chilblains. He also denied any veneral infection or signs of such. Weight was normally 180 pounds but he had lost 50 pounds during the illness. His habits were average.

Laboratory report showed a negative blood Wassermann and normal blood-count and urinalysis. X-ray of both feet and legs revealed only a small phlebolith in the right lower leg.

The patient was admitted to the University Hospital for observation and study in regard to treatment. Symptomatic treatment was given and morphine used as a sedative but without much relief. Cold foot baths gave more relief than any of the various medications or sedatives. A week after entrance, all other medication was stopped and the administration begun of adrenalin chloride 1:1000, gtts XV being placed under the tongue t.i.d. and held there. In another two days, all of his symptoms had been relieved and he was able to sleep through the night.

On the eighteenth day after admission, a tonsillectomy was performed and the patient dismissed symptom-free. He had already gained ten pounds in weight and could walk about without discomfort. The adrenalin was discontinued and the patient told to use alternate hot and cold foot-baths four times daily, then to report at the Dispensary again every two weeks, which he did till he left the city six weeks later, at which time he was still symptom-free.

At this time, six months following the onset, the patient has gained seventy pounds in weight. He can do a full day's work without any discomfort. If he goes to a dance, afterwards his feet swell a little but do not itch or burn. Other than this, he states that he has never felt better in his life.

BIBLIOGRAPHY

1. On a Rare Vasomotor Neurosis of the Extremities and on Maladies with which It May Be Confounded, (S. W. Mitchell), Am. Jn'l Med. Sci. 76:17, 1878.

2. Some Curious Vasomotor Phenomena of Typhoid Fever, (A. Money), Lancet 2:1107, 1887.

3. Bodily Responses in Man During the Continuous Intravenous Administration of Histamine, (Weiss, Soma, Ellis, and Robb), Am. Jn'l Physiol. 90:551, 1929.

POST-MORTEM CAESAREAN SECTION—WITH A LIVING CHILD

FRANK D. RYDER, M. D.,
Grand Island, Nebr.

When I started to write about this case I thought it would be a very brief account of a somewhat unusual case, but in reviewing the records there are many things of interest that should be considered.

A considerable number of such cases have been reported in medical literature and while most of the children have not permanently survived, some good successes have been recorded.

The writer's case:

Mrs. T., October 2, 1930, Grand Island General Hospital. This lady, age 30, had been under observation since May having engaged my services for this, her second pregnancy. The first pregnancy was uncomplicated. Ten days prior to the death of this mother her five-year-old son suffered an attack of influenza. Of course, acute poliomyelitis was thought of, but he cleared up in three days and the case was dismissed. Four days later on September 29, this mother was seen with a temperature of 101, pulse 120, respiration 24, complained of aching over entire body. Under treatment these symptoms disappeared in forty-eight hours, she felt much relieved, but very weak. The day before her death she was up and about the house, had taken food and appeared to be gaining. At twelve noon, October 2, she began coughing and raising a frothy-like sputum and a marked dyspnea was present. The diagnosis of acute pulmonary edema was made and the patient hospitalized. Intensive treatment was carried on, but the patient did not respond and died suddenly twelve hours and thirty minutes after the onset of her dyspnea. Although this patient was seven and one-half months pregnant, no attempt had been made to deliver the baby before the death of the mother; it was thought that the pregnancy was in no way complicating her present condition. Immediately after death a caesarean section was done and a live baby delivered. The baby measured seventeen inches and was a seven and one-half months child and weighed four pounds and six ounces. After a rather stormy start the infant began gaining in weight and at present is doing nicely.

Among the many things of interest when such a case presents itself are the following: The pronouncement of death of the mother. It may come from one doctor, but it is better that it come from two since we all know how difficult it is at times to decide as to the exact moment of death. There are cases on record where a woman supposed dead was operated, but revived and lived.

Baby delivered by caesarean section after mother's death. Photo taken at 10½ months of age.

Until recent times it was exceptional to get a living child by post-mortem caesarean section. We have learned by the mistakes of others that the rescuing of the child must be done at once. In regard to the length of time that a child may continue to live after the death of the mother, Linzenmeier says "that there are on record examples of such children living who were delivered twenty minutes after the mother's death." Bacon says "there is no case on record where the child has lived later than twenty-three minutes." In a report of ten cases by Harrar the longest interval between the death of the mother and the delivery of the living infant was seven minutes. All writers agree that the operation should be done as quickly as possible, but regardless of the elapsed time since the death of the mother, it becomes a legal obligation that we attempt to deliver the child and revive it.

That brings up the question of the best and most rapid method of extracting the child. Experience has shown that attempt to deliver the child from below has generally resulted in the death of the child. Where the os if fully dilated and the head is fixed forceps delivery very rapidly done may save the child. In general caesarean section is the operation of choice.

In regards to the possible civil or criminal responsibility of a doctor who performs a post-mortem section with or without the consent of the husband or next of kin! There should be no hesitation on the part of the doctor where he has this consent. When he does not have it two legal opinions bearing on the question are as follows: Bacon—"The obligation to save the human fetal life when it can be done without the destroying or seriously jeopardizing another life is absolute." Reichmann—"We cannot escape the conclusion that given a case in which in the light of existing scientific knowledge, the belief is reasonably justifiable that the infant may be rescued and its life saved, a caesarean section will be justified by the law on the grounds of public policy and the person performing the same will be fully protected both civilly and criminally, though performed without the consent or even against the protest of those in whom the law has recognized a legal right to the possession of the body of the deceased provided, of course, the operation is performed in good faith." The possible civil or criminal responsibility of a doctor who refuses to perform a caesarean section when the child is viable is clearly set out in the legal definition of homicide; Penal Law Section 1042 "Homicide is the killing of one human being by the act, procurement or ommission of another."

CONCLUSIONS:

1. If possible have consultant present to help decide exact moment of death.

2. Waste no time doing caesarean section, but do it regardless of elapsed time.

COUNTRY DOCTOR

Edith Tatum

He calls no hour of day or night his own.
Through heat or cold he goes his round alone;
Here, to bring some mortal into being,
There, to ease some soul that must be fleeing.
He listens earnestly to tales of grief,
Forgets himself that he may give relief
To bodies suffering, or tortured minds;
In service to all men his pleasure finds.
May God forever bless him with His grace,
For when he goes, oh, who will take his place?

DENTAL NUTRITION IN RELATION TO TEETH*

R. D. COLE, D. D. S.,
Falls City, Nebr.

Proper nutrition is necessary in the pre-natal period for the proper development of the deciduous teeth in particular. Also it is necessary in the post-natal period for proper development ot the permanent teeth.

Mal-nutrition in the pre-natal period causes a faulty development of the temporary teeth, and in the post-natal period faulty development of the permanent set.

We know that calcifaction of the teeth begins about the seventeenth week of fetal life. The greater part of the crowns of the temporary teeth are formed before birth. Some of the permanent teeth are in process of formation at this time also, though no great amount of calcifaction has taken place in the permanent set.

So any mal-formations or irregularities, resulting from pre-natal, mal-nutrition or disturbances will be shown on the temporary teeth rather than on the permanent set.

There are some instances, however, where development of the teeth is arrested by nutritive faults during the pre-natal period which are shown on the permanent teeth by under-development of the enamel and dentin of these teeth.

The teeth and bones of the developing fetus removes quite large amounts of calcium phosphate and other bone and tooth building material from the blood of the mother. So that there seems to be an actual passage of such substances as lime and phosphates from the maternal tissues to that of fetus.

In this way the fetus grows at the expense of the mother and any deficiencies of the elements that tend to develop the teeth are more likely to effect the mother, than the developing fetus, but when this deficiency is too great, both fetus and mother are effected and the result will be manifest in the deciduous teeth of the child, as well as dental caries in the mother.

The requirements of the growing child for foods of calcium content are greater than that of the adult due to the growth and calcifaction of the permanent set of teeth, which are, at this time, in process of formation.

Proper diet at this time is important so that the nutritive requirements which are necessary for the building of tooth structure be taken care of. It has been found by microscopic examination upon the structures of the teeth that Vitamin C and Vitamin D are necessary for the normal development of the teeth.

Vitamin C influences the growth of the dentin and pulp while Vitamin D exerts its influences on the calcium content of the whole tooth.

Vitamin C effects the development of bones and teeth in the formative period and also throughout the life of the individual. A deficiency of Vitamin C stops the growth of the dentin and causes that already formed to soften and disintegrate.

When the Vitamin C intake is again up to normal, the dentin formation is resumed and tooth development goes on in a normal way.

Vitamin C is found in raw, whole milk. leafy vegetables, raw fruits, as oranges, plums, etc., and tomatoes, either cooked or raw. It is estimated that one pint of orange juice daily, or its equivalent in other foods, is necessary for the normal intake of Vitamin C.

So during pre-natal life and early childhood it seems that Vitamin C is an important factor in the development and formation of both the deciduous and permanent teeth.

Vitamin D exerts its influence more in the formative period than at any other time. It is the calcium building element and any deficiency of Vitamin D will necessarily effect the enamel and improper calcifaction will show by pits and fissures and in under-development of cusps and crowns of the teeth.

Vitamin D is found in egg yolk and cod liver oil. It has an action identical with that of sunlight and can be considered as having stored radient energy.

The other vitamins have their part in tooth and bone development but to us the important nutritive elements are Vitamin D and Vitamin C.

Any deficiency of either of these elements results in improper development of some part of the tooth structure.

In conclusion—The nutritive requirements during pregnancy should be adequate for the needs of both the mother and the growing fetus to insure proper development of deciduous teeth, and prevent caries in the mother.

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*Read before the Richardson County Medical Society, Falls City, April 15, 1931.

The nutritive requirements of the growing child should contain the proper amounts of Vitamin D and Vitamin C to insure proper growth and development of the permanent teeth and insure them against dental caries in later life.

ACUTE INTESTINAL OBSTRUCTION

The most important single factor in the clinical consideration of acute intestinal obstruction, says Irvin Abell, Louisville, Ky. (*Journal A. M. A.,* Dec. 20, 1930), is the element of time; a second one of great moment is offered by the site and character of the obstruction, whether high or low, the former pursuing a more rapidly fatal course than the latter. The precise significance of these two factors becomes apparent with a full realization of the sequence of events common to all types of acute intestinal obstruction; namely, mechanical obstruction of the intestine with stoppage of the fecal current, damage to the bowel wall with ultimate gangrene and peritonitis, and an associated production of toxins often of the most virulent type. The high mortality that has obtained and still obtains in the treatment of intestinal obstruction is a serious indictment of both diagnostic ability and surgical initiative. While acute intestinal obstruction carries an inevitable mortality, the greater portion of the mortality may justly be attributed to delay in recognition and to tardiness in the institution of appropriate surgical treatment. The solution of the problem in the early hours following the advent of obstruction, when but simple obstructions are present, may require nothing further; the mortality is low and the results are brilliant if the obstruction is relieved before the wall of the bowel is compromised by pressure or strangulation, volvulus or thrombosis. With the incidence of the complications dependent on strangulation and toxemia. which invariably follow the continued presence of the obstruction, the relief of the obstruction becomes but one of the indications to be met and the risk of any operative procedure is enormously enhanced. Unfortunately, an attitude of ultraconservatism in diagnosis, awaiting the onset of symptoms that prove the presence of obstruction but also indicate the approach of dissolution, has been, if not the accepted rule, then one quite commonly followed. It is an unpardonable mistake to spend invaluable time in making differential diagnoses when symptoms of an abdominal emergency are evident. The presence of abdominal pain, vomiting and constipation with an absence of fever and leukocytosis should put the burden of proof on the medical attendant to show that no obstruction exists. The history, particularly if previous abdominal ailments are indicated, the physical examination, the presence of active peristalsis, visible or audible, with the flat roentgenogram interpreted by a competent radiologist, in addition to the three cardinal symptoms mentioned, should permit of a working diagnosis before the accession of fever, leukocytosis, distention and paresis indicates changes brought about by strangulation, and chemical examination of the blood shows profound alterations. Morphine and purgatives but compound the felony of delay. The former, with its relief from pain afford the patient a false sense of security, denies him the relative safety which early operation offers and lets him drift into the dangers of delay, while the latter merely increases the damage which an already active peristalsis inflicts. The principles underlying the surgical treatment of acute intestinal obstruction are discussed under three headings: the preparation of the patient, the operation, and the postoperative treatment.

RENAL CARBUNCLE

Thomas D. Moore, Memphis, Tenn. (*Journal A. M. A.,* March 7, 1931), states that carbuncle of the kidney is an unusual clinical entity evidently often overlooked because of its frequent association with perinephric abscess, and further because of the difficulties in many instances of a definite diagnosis. The detailed observations from a study of forty-two collected cases are presented and five additional ones are reported. The chief clinical features of the disease are as follows: There is (a) a recent history of a suppurative lesion, such as a furuncle or a carbuncle. (b) From three to five weeks later, dull pain appears in the region of the affected kidney, associated with local tenderness, fever and sweats. Rigors may or may not occur. (c) The laboratory data usually includes practically a negative urinalysis, moderate leukocytosis and a positive culture of Staphylococcus aureus from the affected kidney, the function of which may be moderately diminished. (d) Pyelography reveals no characteristic changes and may simulate a picture of a real neoplasm. (e) Surgical intervention is usually imperative, nephrectomy being the treatment of choice. In cases complicated by perinephric abscess, preliminary drainage is desirable prior to nephrectomy.

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Around the Christmas Lamp

"The wind may shout as it likes without;
It may rage, but cannot harm us;
For a merrier din shall resound within,
And our Christmas cheer will warm us.
There is gladness to all at its ancient call,
While its ruddy fires are gleaming,
And from far and near, o'er the landscape
drear,
The Christmas light is streaming.

All the frozen ground is in fetters bound;
Ho! the yule-log we will burn it;
For Christmas is come in ev'ry home,
To summer our hearts will turn it.
There is gladness to all at its ancient call,
While its ruddy fires are gleaming;
And from far and near, o'er the landscape
drear,
The Christmas light is streaming."

THE 1931 CONFERENCE OF SECRETARIES AND EDITORS

The annual November conferences of secretaries of constituent state medical associations and editors of state medical journals become increasingly more interesting and valuable to those attending them as they become better acquainted with the personnel of the conferences and deeper imbued with the ideals of the American Medical Association. The conference held at American Medical Association headquarters, November 13 and 14, attended by your secretary and your editor, was unusually interesting and forceful in presentation of program.

"Official Records" of state medical associations was presented by Dr. Emma W. Pope of San Francisco in a masterful essay. Records to be of greatest value must be complete and cross indexing is necessary. The record should show at a glance, for instance, whether a person is suspended, delinquent or expelled. Indexing of the minutes is of the greatest importance for future reference.

Dr. C. B. Conklin, Washington, D. C., presented the subject "Practice of Medicine by Lay Organizations". The problem is a complicated one. The Nebraska Supreme Court has decided a lay corporation may practice medicine, while the courts of some other states have held differently.

"Editorial Problems" was well discussed by Dr. J. H. Dempster of Detroit. The physician is both a scientific man and a human being and needs a "mixed ration" in his journal to get the proper "vitamines" to furnish sustained interest. The State medical journal is the most cohesive thing in medical organization and it needs careful direction.

"Medical and Hospital Service for Veterans" was presented by Dr. C. B. Wright of Minneapolis. The Shoulders Insurance Plan (of which more in a subsequent issue) of hospitalization at or near home, the patient to choose his own physician and his own hospital, as against the Veterans Hospital was advocated.

Dr. Rollin T. Woodyatt, Chicago, presented a very ingenious argument on "The Hospital and its Staff as a Practicing Group". He would have the community physicians affiliated with the work of the hospital group with a net result of superior service to all with reasonable charges for all.

"Coordinating the Work of Five County Societies" in the New York metropolitan area was discussed by Dr. Alec N. Thomson of Brooklyn. The matter is of tremendous importance as a problem in New York City; but has little interest to most of us.

Dr. A. H. Freiberg of Cincinnati, spoke on "The Significance of Medical Leadership". We need medical leadership in public life. We need vision. We need a profession united, first of all, on a program. This was one of the most appealing talks given before the conference.

"The Way of Medical Insurance" was elucidated by Nathan Sinai, a Ph. D., professor of Economics at the University of Michigan, Ann Arbor, in a masterful lecture that held the audience spellbound. He gave a keen analysis of the working of State or Social medicine in European countries, based on a first-hand study made by him last year.

The last two subjects (as indeed all others) will be well worth careful reading by all physicians when published in the *A. M. A. Bulletin.*

Inspiring talks were given by Dr. E. Starr Judd, President of the American Medical Association and by Dr. Edward H. Cary, President-Elect.

The uniform courtesy and friendliness of officials and clerical help alike at A. M. A. headquarters is a never ending source of wonderment to those of us who have the privilege and pleasure of these annual trips to the shrine of organized medicine.

THE COLLEGE OF SURGEONS MEETING LAST OCTOBER

The Clinical Congress of The American College of Surgeons held at New York in October, was extraordinary. The largest surgical organization in the world was attended by 2,700 of the foremost surgeons of this country, together with some 700 hospital superintendents and managers, and with the distinguished representatives of the surgical profession from other nations, it comprised a notable assemblege of progressive surgeons. This gathering gave distinction and prestige to the New Waldorf, (the world's premier hotel) in the entertainment of its first convention. The hotel's accommodations for all of the central activities were excellent. The exhibits both commercial and scientific were most complete. Especially noteworthy were the lectures, exhibits, cinemas and the demonstrations of splints and apparatus featuring the industrial surgery educational program of the College in which there is manifest a growing interest from year to year. Hospital standardization sponsored by the College is now an accepted requirement and there is little left of the earlier opposition. The same may also be said of standardized surgery.

A symposium on Cancer and one session devoted to the consideration of the essentials in the organization and administration of cancer clinics throughout the country under the guidance of the American College of Surgeons, was a feature of the meeting.

The vast clinical facilities of New York were made readily available and gave this vast number of surgeons a very free choice from among New York's and Brooklyn's most emminent surgeons giving clinics at her hundreds of hospitals.

The arrangements were so admirably planned that all were satisfactorily served.

Those in attendance were highly gratified and freely praised the educational and cultural values obtained by their attendance.

A visit to New York is always inspirational as everything to be seen or described is in the superlative which is especially true at this time. Outstanding examples of this are the Medical Center, the new Cornell group, the Washington Bridge, The New Waldorf, and the Empire State building.

Dr. J. Bentley Squire, New York, was elected President-elect. Dr. John E. Summers, Omaha, was elected one of the governors of the College.

Six Nebraska surgeons were admitted to fellowship in the College: R. Russell Best, Omaha; David L. Fletcher, Orchard; Fredolph A. Pollack, Norfolk; Sidney O. Reese, Lincoln; Roy H. Whitham, Lincoln; James M. Woodward, Lincoln.

—J. P. Lord, Omaha.

WHAT ABOUT THE MIDWIFE?

The White House Conference on Child Welfare and Protection gave serious consideration to the problem of the midwife in the United States. Much approbium has been heaped upon her. She has been looked upon as a menace to society and more particularly to the child-bearing woman. Our high maternal mortality and morbidity as compared with that of other nations has been credited in part to her and the medical profession has been content to denounce her as a menace to society with little thought of its own responsibilities in making her services more efficient. Recent researches have revealed the fact that the mortality among women delivered by midwives is actually lower than in the group delivered by the general medical profession. In justice to the midwife we note that in Holland and Scandinavia the midwife delivers 80 to 90 per cent of all obstetric cases. These are the countries having the lowest maternal mortality rate. Unlike our own midwives, who practice midwifery from the necessity of making a livlihood rather than from any personal qualifications, the midwives of Holland and Scandinavia receive two to three years of maternity training and are supervised in their practice and restricted to the delivery of normal cases.

There are in the United States 47,000 women practicing as midwives. They deliver approximately 15 per cent of the mothers of the country. The number of qualified midwives is small indeed, most of them having received their training in European countries. For the most part they are untutored and unsupervised. Only in New York and Philadelphia is there an organized effort to train midwives. County health departments in some of the states which have a midwife problem are making feeble efforts to improve midwife practice by inaugurating a system of inspection. In the South the situation is critical and as a consequence the maternal and infant mortality and morbidity among the negro group is excessive. It is only fair to say that the colored midwife is not wholly to blame. The unsanitary conditions surrounding the negro in the South, the high percentage of venereal disease and the lack of prenatal care account for the high mortality rate to a greater degree than can be charged to the ignorant midwife.

It is evident that there is need for the midwife in this country. In some states 40 to 50 per cent of mothers are delivered by midwives. The Committee of the White House Conference recognizes the necessity for midwife service and recommends that the medical profession is under obligations to make her proficient. There should be institutions for the training of midwives located preferably near the territory in which she will practice. There should be post-graduate courses for keeping midwives up-to-date and State boards of health should develop standards of midwife education, supervision and control.

—Palmer Findley, Omaha.

Sympathizer: "How's your insomnia?"

Incurable: "Worse and worse. I can't even sleep when it's time to get up."

THE END OF VOL. XVI

This number completes Vol. XVI of the *Nebraska State Medical Journal* and the editor leaves it to the reader to say whether the *Journal* is worth while. An editor has his ideas and his conceits about the work he does on a journal. This editor has long since learned that one cannot expect applause from the medical reader. The profession takes a lot for granted and as long as the reader sees nothing special to kick about he says nothing audibly within hearing of the editor, leaving him to form his own conclusions.

This editor likes state medical journalism, he gives the best he has to the work and he hopes the reader likes the resultant product. He pleads for continued and increasing cooperation of the profession and welcomes suggestions and constructive criticism.

THE SYNDICATE MEDICAL WRITER'S TIRADE AGAINST SPECIALISTS

One of the popular syndicate medical writers has been indulging in a tirade of invective in the daily press against specialists in the medical profession. In no equivocal terms he is informing the masses of the people in this country that specialists are crooks, humbugs, impostors, and robbers. Exact terms are quoted.

For a professional and scientific man, a leap to arms in self-defense ought not be the first impulsive reaction to such an attack. Rather, it is in order for us to institute some self-examination to see if there is or is not some basis for this acrid abuse.

No one is more ready than the honest physician to admit that among our number there are incompetent and unscrupulous members, and that the combination of the two characteristics is especially unfortunate for the public. Such men are rare, but they attract more attention than an overwhelming majority of honest and competent workers. We recognize their presence in our midst, and are doing our best to protect the public against them, in spite of public indifference and obstructionism. Because there is an insignificant percentage of incompetent men practicing specialism under false pretense, is it justifiable to condemn specialists wholesale as a class? Over and over again Dr. Brady has swept them up, one and all, as fakers. (exactly quoted).

It seems that even a medical man who only writes and does not practice, ought to be aware of the fact that medical knowledge has progressed so rapidly, and assumed such volume and complexity that no one man can possibly have a grasp of the whole field. In fact, no one specialist can even cover the knowledge in his own specialty.

If sick people are to have the benefit of the best that modern science can do for them, the man with a narrow but highly intensified field of practice is absolutely indispensable. While the family doctor is still and always will be the mainstay of medical practice, he can only hit the high spots. Matters will be constantly coming up in which he needs the help of the specialized man, unless he wishes to deny his patients the benefits that are thus readily available.

There is nothing hard to understand about that fact. Even laymen, unacquainted with the medical field and untrained in scientific thought, have suspicions of the impressions conveyed by Dr. Brady's writings, to the effect that no medical man can be trusted except the family doctor, and that any and every family doctor is the last infallible word on everything medical. That isn't common sense. Yet, Dr. Brady's writings do give that impression to the lay reader. I say this, because I never read them except when some confused and puzzled layman comes to me with them.

Even making due allowance for the temptations that beset the popular author to curry public favor by verbal violence and an exaggerated air of exposing hidden skeletons, we still feel that Dr. Brady is going just a little too far in his vicious anathemas against specialists in general; that he is not exercising due scientific caution and professional restraint, and as a result, is misleading the public, and showing a tendency to betray the ideals to which every physician tacitly subscribes when he accepts his medical degree. The worthy doctor is a brilliant writer, and we wish that he would devote his talents to urging the public to respect the family physician and call upon him first in every need. to warning them against running to specialists with every little trifle, but to refrain from destroying their faith in the specialist's services when the family doctor feels that the latter are required.

—Miles J. Breuer, Lincoln.

CHRISTMAS SEALS AND SCIENCE

As the annual Christmas seal sale opens this year, marking the twenty-fifth anniversary of the continuous, organized war on tuberculosis, in the United States the question may arise in the minds of thinking people why science has not developed some quick and certain cure, such for example, as the toxin which prevents diphtheria.

Research workers have been faithfully at work on this problem but as yet without success. The control of tuberculosis must still be based on accurate early diagnosis and the perfection of treatment by means of the recognized methods, rest, fresh air, and nursing care. The disease kills only one person today where it killed two a quarter of a century ago. Nevertheless tuberculosis is still a major public health problem. More people between the ages of 15 and 45 die of it than of any other disease.

In spite of its failure to discover a specific cure, science has quite recently made two advances in the study of tuberculosis of great practical value. One is the purification of tuberculin —the substance used everywhere to detect infection—so that results from its use are sure to be uniform. The other assures making x-ray pictures free from blurring and of standardized depth of shadow. Both these contributions to tuberculosis work increase the physician's ability to make early and accurate diagnoses which, in turn, increases the hope of cure.

The new tuberculin will be known as "MA-100". For many years tuberculin has been used in a simple and harmless skin test as a means of determining infection. This did not mean disease existed when persons reacted positively—but that among those who responded would be found all those with active tuberculosis, so that in the hunt for cases among large groups such as school children, for example, further inquiry and examination could be safely limited to the positive reactors to this test—the others could not be in any danger. There was one flaw in the process. The old tuberculin contained ingredients other than the active principle, some of which might cause reactions when there was really no infection at all. In addition to this, it was impossible to graduate the dosage uniformly, because the substance was not pure. and this interfered with that accurate study and comparison of results upon which medical science depends for progress in human betterment.

The new tuberculin marks a great step forward, and comes as a result of several years' research in a number of laboratories by scientific men working under a cooperative plan as the Research Committee of the National Tuberculosis Association. This is the organization which sponsors the Christmas seal sale through its 2,084 local associations and committees throughout the United States, and part of the money raised through the seal sale goes to pay the expenses of such research.

Standardizing x-ray pictures has long been a problem among specialists in tuberculosis. Variations in mechanism, in local conditions, in the personality of operators, conspired to interfere with scientific accuracy. For example, pictures made in one city with a certain apparatus would be found, if the patient moved to another city, to be of little use when compared with those taken later in watching the progress of the patient, because the second physician would not be conversant with the variables of the first machines, and would be unable to make allowances for them. Differences in lighting and mechanical action rendered it imperative for the physician reading the negative to understand fully the peculiarities known to exist in the operation of the apparatus. It was next to impossible for physicians to confer with each other by correspondence, because the interpretation of shadows would differ in many instances. The new instrument devised to remedy this grave fault establishes a standard which the operator can use to know in advance of taking the x-ray that a certain established density in the picture will be obtained. This reduces those variations which have heretofore stood in the way of accurate judgment, and constitutes a notable achievement in the war against tuberculosis.

Another improvement in mechanism developing at the same time, is a method of synchronizing several short exposures between heart beats to produce a clear, composite negative free from blurring caused by the heart's action. It operates something like a machine gun on a combat airplane, which shoots bullets through whirling propeller blades.

By such gradual advances as these the relentless campaign against tuberculosis is waged. They are not spectacular instances of brilliant inspiration, but rather striking examples of careful, plodding work such as characterizes the all-year-round efforts throughout the nation to prevent and cure tuberculosis, which are financed by the Christmas seal sale.

—Dwight Anderson,
Natl. Tuberculosis Assn.

TUBERCULOSIS, A MAJOR HEALTH PROBLEM

"Tuberculosis is the captain of the men of death," we shouted from the housetops a few years ago. Gradually, however, this destroyer has been demoted, so that today six other diseases outrank him. But plot the tuberculosis death curve according to age groups and then you will see that the greatest toll is taken during the noontide of life—that most productive and enjoyable period between 15 and 45.

It is otherwise with the six captains who now outrank tuberculosis. Pneumonia is often called "the friend of the aged" because it so commonly brings to a serene close the career of life-weary old people. Deaths from heart disease, cancer, apoplexy, and kidney disease, when analyzed, are found to occur most frequently late in life.

A disease which snatches away life when it is sweetest, when the fruits of hard work are ripening, when maturity is at its best, when the tendrils of affection are closely wound around loved ones, when children need us most—that disease is our most ruthless enemy.

Nor is that the whole story. Mortality statistics tell us little about the handicaps imposed by tuberculosis on people who manage to effect a truce with him. Many such live to old age, but life for them is a continuous armed neutrality. Forever they must be on guard lest an overambitious spirit drain those physical resources that are necessary to keep tuberculosis in check. Ambitions, aspirations, desires, are thwarted. Who can estimate the prices that this disease extorts from the spirit of man?

Foremost in the battle to overcome tuberculosis is the National Tuberculosis Association that will be represented among us during December by the cheerful Christmas Seal, which, sold for a penny, will finance the work of the 2,084 affiliated tuberculosis associations throughout the United States during 1932. Like the "little drops of water and little grains of sand," the pennies from the sale of Christmas Seals combine to form mighty bullets in the war against tuberculosis.

Verily, a worthy work deserving the support and active participation of every physician. Buy Christmas Seals.

—* * * *

MEDICAL DOCTORS

"Who and what are Medical Doctors?" This question cannot be answered in a word; but facts may aid in clearing up this query; so, here are some facts. Every nation in the world has its standing army, and every regiment of every standing army must have its corps of physicians and surgeons; every such physician and surgeon is a medical doctor. Every naval vessel in the world, as well as every other ship afloat upon the high seas, has its allotment of physicians and surgeons; every one of those physicians and surgeons is a medical doctor. Physicians and surgeons for all railway systems, and for other organizations employing men in large numbers, are medical doctors. Examiners for all life insurance companies are medical doctors. No life insurance company would wish to place, say five thousand dollars on the life of an individual, unsound physically, and, who might die in a few years with tuberculosis, diabetes, bright's disease, heart disease, or cancer of some internal organ. These life insurance companies understand that, if they are not to become bankrupt, they must have their applicants for life insurance examined by physicians who know and understand the human body in all its minute anatomy and physiology, and who are capable of detecting the faintest symptom of disease, hence they choose medical doctors to make these examinations.

"In the light of these facts it would seem that all people at all times would employ only medical doctors to treat their physical ailments."

—Extract from Medi-cult, The A-B-C of the Medical Profession, by Dr. B. F. Lorance, Auburn, Nebr.

THE EDWIN SMITH SURGICAL PAPYRUS IX

Dislocation of the Cervical Vertebra: "If thou examinest a man having a dislocation in his vertebra of his neck, shouldst thou find him unconscious of his two arms and of his two legs on account of it, while his phallus is erected on account of it and urine drops from the member without his knowing it; his flesh has received wind; his two eyes are bloodshot; it is a dislocation of his neck extending to his backbone which causes him to be unconscious of his two arms and his legs. If however the middle vertebra of his neck is dislocated, it is an *emissio seminis* which befalls his phallus. Thou shouldst say concerning him: One having a dislocation in a vertebra of his neck, while he is unconscious of his two arms and of his two legs, and his urine dribbles: An ailment not to be treated." (Case XXXI).

A Crushed Cervical Vertebra: "If thou examinest a man having a crushed vertebra in his neck and thou findest that one vertebra has fallen into the next one, while he is voiceless and cannot speak; his falling head downward has caused that one vertebra crush into another; and shouldst thou find that he is unconscious of his two arms and his two legs because of it thou shouldst say concerning him: One having crushed vertebra in his neck; he is unconscious of his two arms and his two legs and he is speechless. An ailment not to be treated." (Case XXXIII).

DR. GEORGE O. REMY CELEBRATES EIGHTIETH BIRTHDAY AND FIFTY-FOUR YEARS OF SERVICE

Dr. George O. Remy was born near Hope, Bartholomew county, Indiana, October 1, 1851, and was therefore eighty years of age on the date of the Eighth Councilor District Medical Society meeting at O'Neill which event offered a good opportunity to tender him a banquet celebrating his birthday. His early education was obtained in the public schools and by attending Franklin College at Franklin, Indiana, two years. He was graduated from the Ohio Medical College at Cincinnati in 1877. He engaged in practice in his native state from date of graduation until 1884 when he moved to Brown County, Nebr., took a claim and located at Ainsworth, where he now resides. Following the great drouth in northwestern Nebraska he left his Brown county holdings and engaged in practice two years at Pender, two years at Norfolk and three years at Craig, returning to Ainsworth in 1901, where he has been in practice since that date.

DR. GEORGE O. REMY

Dr. Remy is a man of ample and wonderfully strong physique and is still active in the profession after fifty-four years of service. He was married in Indiana to Miss Maggie E. Barrett, May 15, 1882, who is almost the same age as the doctor and quoting the doctor "bids fair to be the last leaf upon the family tree". They have two children, one of whom, Dr. Charles E. Remy is at present superintendent of the Minneapolis General hospital.

Dr. Remy is a man of cheerful disposition. He is a reader of the better things in literature. He occasionally writes verse. Some of his brain children rank well in contemporary poetry.

On the occasion of the celebration of his eightieth birthday he read the following poem:

LINES TO LIFE

We've traveled far together, Life,
  From childhood to old age,
We've climbed the hills of barren rock,
  And played upon your stage.
Our friendship's never had a jar,
  I've loved you all the way,
No one has come between us, Life,
  To cause this love to stray.

Of all who started with us, Life,
  But few are left today;
They started with as fair a chance,
  But, somehow, lost the way.
They loved you just as well as I,
  Their prospects just as bright;
But, somewhere in the swamps we crossed,
  They dropped from out our sight.

I'm growing somewhat tired, Life,
  My step is not so strong
As when we stood upon the heights,
  Or mingled with the throng.
Some day I know you'll leave me, Life,
  It won't be very long,
As you have left those other friends,
  But still my love is strong.

I do not bid you good-bye, Life,
  You've been too true a friend,
I'm just a little weary now
  And can't tell when 'twill end.
But when we reach the journey's close,
  When all earthly ties are broken,
Then, may the good-byes that we say,
  Be gentlest ever spoken.

—G. O. Remy.

PROCTOLOGICAL HINT NO. XIV

Abscesses located over the coccyx do not usually connect with an opening in the annal canal. Most of these abscesses in this locality are pilonidal cysts.

—L. E. Moon, Omaha.

EDITORIAL PARAGRAPHS

It is stated that an auto accident occurs every minute in this country and that nine out of ten are preventable.

Preventive medicine is not altogether a modern concept. It is stated that Cyrus the Great boiled drinking water on his military campaigns.

The physician who will not do his duty to the poor in this period of economic stress may be a good doctor, but he is a poor excuse for a real man.

The Nebraska Supreme Court affirmed an award of the district court for $3,000 in the case of Cook vs. Moats for malpractice. The plaintiff alleged her leg was broken by the treatment of an osteopath.

A number of free diagnostic clinics for crippled children have been held in this state and one of the points developed as a result is that about ten percent only are amenable to rehabilitation treatment.

The most recent bulletin from the Nebraska state board of health says: "The totals for tuberculosis reflect better reporting, not an increased prevalence. Report of this disease has been overlooked often, because it lacks certain acute factors that would prompt reporting."

A friend suggested a State Medical Association meeting moratorium for a year inasmuch as we regularly have our county and district medical society meetings. It must be admitted that this offers something to think about. Personally, we are strong for the state meeting.

A question in cleanliness and ethics: What about the physician who enters the sickroom smoking, lays down his cigarette or cigar and without washing his hands thrusts the thermometer into the patient's mouth or uses the tongue depressor, or, perchance examines the oral cavity?

The children's ward of the University hospital, Omaha, has been decorated with murals of animals, donkeys, bears, dogs, penguins, foxes, owls, etc., and the dome is floating clouds dotted with birds, through the generosity of Mrs. J. A. Henske in memory of her father, Dr. Harry M. McClanahan, pioneer pediatrician.

A press clipping indicates that a solicitor for a surgical instrument house who is not a physician gave a diathermy clinic to eight cultists in a town in this state and did so-called tonsillectomies on 22 patients. The wonder is not that cultists buy electrical apparatus and practice with it, but one does wonder by what right a lay salesman practices surgery.

It is stated by Dear in the *Military Surgeon* for November, 1931, that the theory of lice transmission of typhus fever is quite unacceptable to the peasants of the Russian hinterland, as they regard lice infestation a normal condition of man. Many believe that freedom from lice is due to an unwholesome personal characteristic, rather than to some degree of personal cleanliness.

A Nebraska country physician attended a confinement on a warm summer night. The husband, who sat on the ledge of the open window at the moment that tries men's souls, fainted and fell backward outdoors into the rain barrel. And yet they say country practice is monotonous.

The Sixteenth Annual Clinical Session of the American College of Physicians will be held in San Francisco, April 4-8, 1932. The headquarters in San Francisco will be the Palace Hotel, where the general scientific sessions, registration, and exhibits will be held. Clinics will be conducted in various hospitals and institutions in San Francisco and near-by communities.

The Washington (State) Supreme Court in the case of Prather vs. Downs, decided the use of the Lane plate. except as a last resort, malpractice. We copy from *Northwest Medicine*: "In the present case there is ample evidence to warrant the jury in finding the appellant guilty of negligence in resorting to open operation for the purpose of effecting a union of a fractured bone without first exhausting such well-known and universally proven methods as manipulation, traction, and extension processes."

A bureau of medical economics was established at American Medical Association headquarters, Chicago, during the year with Dr. R. G. Leland in charge. Dr. Leland held a meeting in Omaha, November 4, under the auspices of the Omaha-Douglas County Medical society, to which officers of the state association were invited. After a dinner in the Fontenelle, Dr. Leland explained that the preliminary work of the bureau would be to gather statistics and to make studies of health insurance, malpractice insurance, activities of local health departments, etc., in hope of having some authoritative information to give to the profession later to guide our activities.

Dr. William E. McVey, Topeka, since 1914 editor of the *Journal of the Kansas Medical Society*, died October 21, aged sixty-seven years. He had been a prominent man in medical organization in Kansas for many years and had been secretary and president of the state society.

Dr. J. Whitridge Williams, professor of obstetrics. Johns Hopkins University School of Medicine, died October 21, following an operation, aged about sixty-seven years. He published a "Textbook of Obstetrics" and was a voluminous writer for medical periodicals. He had been honored by degrees from universities in this country and abroad.

A friend sent us the following hundred year old item reproduced in the Philadelphia Inquirer of February 3, 1931. It gives an inkling of the state of medical knowledge at that time:

"Remedy for the Lockjaw—We are informed by a friend, that a sure preventative against this terrible disease is to take some strong soft soap and mix it with a sufficient quantity of pulverized chalk, so as to make it of the consistence of buckwheat batter—put it into a cloth or small bag and apply it to the wound; keep the chalk moistened with a fresh supply of soap until the wound begins to discharge, and the patient receives relief. Our friend stated to us, and implicit confidence may be placed in what he says, that he has known several cases where this remedy has been successfully applied. So simple and valuable a remedy within the reach of every person ought to be universally known."

The name "Squibb" is well known to every medical man and woman. It will. therefore, be of passing interest to learn that E. R. Squibb, the founder of the "House of Squibb", was born in Wilmington, Delaware, in 1819; was apprenticed at 18 to a Philadelphia pharmacist; entered Jeffersôn Medical College and was graduated in 1845; was offered the post of demonstrator of anatomy and curator of the museum, but elected to practice medicine. His early leanings were toward surgery. He was an assistant surgeon in the Mexican War. Later he became interested in higher standards of purity and uniformity of drugs and more accurate knowledge of their potencies and uses. He developed the steam ether process in use today. He then applied his genius to the purification of chloroform. During the Civil War Squibb's anaesthetics were the standard and the entire output of the house was purchased by the government, without competative bidding. This, in a small way, gives the beginning of the present "House of Squibb." Dr. E. R. Squibb died in 1900.

The adoption of a comprehensive plan for the development of an adequate psychiatric personnel to meet the needs of rapidly expanding psychiatric and mental hygiene activities throughout the country, has been announced by The National Committee for Mental Hygiene.

The growing demand for trained workers, according to the annoucement, has led to the decision by the Executive Committee, in consultation with experts in psychiatric education, to embark on a definite program of study and activity looking to the training of an increasing number of such workers to meet the anticipated needs of the future as well as the pressing needs of the present.

The work will center largely around the medical schools with a view to the development of adequate psychiatric teaching and the training of graduates and undergraduates in this subject. The purpose will be two-fold: to attract medical students to the specialty of psychiatry, and to give those who plan to engage in other specialties or in general practice such instruction as will equip them better to deal with the psychiatric problems that will inevitably arise in their work.

While, therefore, the immediate aim will be to interest students in psychiatry as a life work and to develop means to increase the number of well-trained psychiatrists, there will also be the broader aim of imparting a working knowledge of the subject to the medical profession in general, by enriching the psychiatric content of medical education and by strengthening post-graduate centers of psychiatric training.

THIS MONTH IN MEDICAL HISTORY

SURGERY ONE HUNDRED YEARS AGO*

In 1831, C. D. Tilanus was Professor of Surgery at the University of Amsterdam; J. C. Broers at the University of Leyden; and P. J. I. de Fremery at the University of Utrecht. These three men a few years earlier traveled together as medical students visiting clinics in various parts of Europe. In particular they spent three months in the hospitals at Paris. Their observations and experiences were recorded in a diary by Tilanus which forms the basis for the small volume referred to in the footnote.* There is an introduction by Professor Delprat of Amsterdam.

Tilanus was born in 1796 and studied medicine at the University of Utrecht. He became Professor in the Clinical School of Amsterdam in 1828 at the age of thirty-two. De Fremery gained an honorary Professorship at Utrecht in 1829. Broers who was the third member of the group of students became Professor of Surgery and Obstetrics at the University of Leyden in 1826. The title of his inaugural address upon that occasion was "The Necessity of Courtesy and Humanity on the Part of Surgeons".

In reading the diary of their travels to the European clinics in 1818 one is struck, as Professor Delprat was, by the tremendous mortality in surgical cases and the frequency with which resort was had in the treatment of such cases to venesection or phlebotomy. It was often spoken of as "the sheet-anchor of surgery".

The young students in their travels were particularly impressed by the clinics of Dupuytren at the Hotel Dieu in Paris, and those of Larrey at the Military Hospital, and of Boyer at the Charite'. Dupuytren was the outstanding surgeon of Paris at that time and for many years. Larry was attracting great attention, not only by the extent and importance of his surgical work, but because he was known to Parisians as having been the chief Surgeon to the armies of Napoleon. Napoleon himself, and people generally knew Larrey and described him as "The most honest man of his century".

Dupuytren was a successor of Desault and Sabatier. He was ambitious even to the point of being unscrupulous in his dealings with his contemporaries and associates. It was alleged that he forced his associates, Pelletan, out of the Hotel Dieu by unfair means.

A suggestion as to surgical methods in compound fractures may be obtained from the following: "Compound fractures were almost without exception infected. It is difficult to state the percentage of recovery, but we know that the death-rate was colossal. The terrifying vision of tetanus stood all too frequently by the side of that of infection. Now and then, however, all went well. Here is an example:

"A patient, from whom three weeks ago some necrotized pieces of bone had been extracated from the calf of his leg, is showing early symptoms of tetanus. He has difficulty in opening his mouth (although he has no physical defect), contraction of the thighs, etc. Dupuytren uses sudorifica; air and light are excluded as much as possible, also opium is administered, but not as yet in a large dose. . . . . (Ten days later) The tetanus has been completely cured by enemata, purgatives, emetics, vesicatoria, etc. . . ."

But as I have stated before, this was a very great exception. Generally the patient died."

Before leaving Paris the young men visited a "Panorama of Amsterdam" — that they had a touch of homesickness is indicated by the following: "Visited the Panorama of Amsterdam. The view taken from the Montelbaan tower at Amsterdam. The city is represented in its winter garb covered with snow. The cloud effect full of power and the whole correct. These few moments were delightful for, seeing this work of art, brought my thoughts back to the Amsterdam of my native country. This hour is one of the most enjoyable I have spent in Paris!"

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*Diary of Dr. C. B. Tilanus, afterwards Professor of Surgery at the University of Amsterdam. Edited by Prof. H. T. Deelman. Translated from the Dutch by Joseph Bles. Published in London in 1925 by Butler & Tanner.

From Paris the journey was made to Strasburg, Griesbach, Freudenstadt and to Tübingen, traveling entirely afoot!

The comments upon the medical students at Tübingen are interesting: "The number of students in Tübingen is now between 600 and 700, of which about 120 study medicine." The prosperity of the town largely depends on these students and also on cattle-breeding. It is not difficult to single out a Tübingen student; not only do they dress very peculiarly, but having beards and mustachios they look a wild lot; in fact, they resemble a band of robbers rather than students. We were told that to clothe themselves peculiarly was more common among the students of Tübingen than those of any other German University town. At the same time there was nothing but praise for their morality and general conduct, and if at any time disputes arise among them they are settled by a tribunal called Germania, made up among the students themselves."

From Tübingen Tilanus and his associates visited Stuttgart Heidelberg, Baden-Baden (which was then a health resort as it is still) and Carlsruhe.

The advantages of travel on foot may be gathered from the following: "(Leaving Carlsruhe). We left by the Durlach Gate and stranghtway entered the beautiful avenue of old high poplars, which runs in a straight line to Durlach, which lies at rather less than an hour's distance from Carlsruhe. Whilst sauntering along smoking our pipes we met two farmers who were carrying two roedeer and a stag which they had shot. About half-way we found a fine inn with Ionic columns at the front and with statues on the terrace. In an hour we reached Durlach, where, at the gate we had to show our passes and where a friendly sergeant offered us wine from a large tin bottle to quench our thirst. The little town is rather pretty, but quite small, and the Castle is unimportant. From Durlach we went to the beautiful Weingarten, which we reached in about two hours and where we found excellent beer and a host who was very agreeable. and very fond of talking politics.

"The road was—like most of the roads in Germany which we knew so far—very good, and had fruit trees lining both sides; the country, however, is rather flat. In three hours we reached Brucksal, where we meant to stay the night. It was almost eight o'clock before we entered the inn Zum Bradischen Hof. We had tó hunt for it quite a long time, for this little town seems, as it were, filled with inns."

"We had a wash and then sat down to a good supper with several other people." . . . . "We soon after went to bed, as we had to be up very early for our walk to Heidelberg. The next morning, July 24, at five we were enroute. The road was planted on both sides with well-grown walnut trees, and on the left were fields filled with many different crops; we saw some with flax, others with hops, which gracefully wound itself around the tall poles. Near the town we cut across by a side path which led us into the centre of the town, quite near the inn zum Carlskag, where we intended to stay and where we were soon seated at the dinner table."

At Heidleberg the principal clinic visited was that of Chelius whose surgical work in many editions is one of the classics of the 19th century. Of this visit Tilanus says: "We attended here a surgical lecture by Professor Chelius on carcinoma. Diagnosis prognosis, etc. were treated as usual; as regards the cure we noticed that Chelius was against all attempts at resolving a schirrhus, and in every case extirpated it at the earliest moment." . . . "After the lecture Chelius very kindly took us with him on his round and drew our attention to some interesting patients. Professor Chelius is young and very affable, and gave a good deal of his time up to us. He has traveled much and appears to be a very able man. He often showed very correct judgment. He had been in Paris some time ago and we fully agreed in our opinions concerning the professors there; Larrey, for instance, he held in great esteem as regards his treatment of wounds. etc."

The journey was approaching its end as the young men walked two days from Cassel to Gottingen. There they visited the celebrated von Langenbeck. Passing thru the Harz mountains they came to Halle where "We contented ourselves with calling upon Professors Sprengel and Meckel with a view to seeing Meckel's anatomical collection. Professor Sprengel was in his garden and we recognized him at once by his well-known portrait. He is a genial little man, with his hair cut in the German way, and dressed very simply. He told us that he now confined himself entirely to gardening, which he thoroughly enjoyed, and which gave him ample work. He did not intend to occupy himself any more with the Medical Sciences, although he might possibly publish a 'literatura medica', at which he had worked for many years."

The diary is of so much professional and human interest that one wonders why we do not more often set down the day to day hapenings of our own study, travel, and professional work. No doubt future generations of students and physicians might derive pleasure and instruction from records of incidents and events that seem relatively unimportant to us as the days go by.

NECROLOGY

John W. Bozarth, Hollywood, Calif., native of Shawneetown, Ill., and son of a physician; Marion Sims College of Medicine, St. Louis, 1898; in practice at Mt. Pulaski, Ill., from 1898 to 1909; located at Lexington, Nebr., from 1910 to 1926, when he moved to Hollywood, Calif.; former member Nebraska State Medical Association and sometime president, Dawson County Medical Society; died October 12, 1931, at Hollywood, Calif., aged about sixty-seven years. A widow survives.

Harvey H. Bellwood, Long Beach, Calif.; native of Abingdon, Ill.; Rush Medical College, 1887; in practice at Alliance, Nebr., from 1888 to 1919, when he moved to Long Beach; former member, Nebraska State Medical Association; first councilor of the Twelfth (Nebraska) Councilor District; several times president of the Box Butte County Medical society; sometime mayor of Alliance; delegate from Nebraska to the Democratic National convention that nominated Woodrow Wilson for president, the first time; prominent in Odd Fellowship for forty-five years; died October 29, 1931, aged about eighty-three years.

James M. Henry, Caldwell, Idaho; College of Physicians and Surgeons, Chicago, 1885; in practice at Hildreth, Nebr., for ten years immediately following graduation; later removing to Payson, Utah. and still later to Caldwell, Idaho; died near Notus, Idaho, September 21, 1931, aged seventy-four years. He was a cousin of Dr. E. C. Henry, Omaha, Dr. W. O. Henry, Los Angeles, and Dr. W. H. Wilson, Lincoln.

Daniel Stidworthy, Homer, Nebr.; Sioux City College of Medicine, 1894; practitioner at Homer since graduation; died November 14, 1931, aged about sixty-five years.

Charles F. Zimmerman, Naper, Nebr.; native of Laporte, Indiana; Chattanooga Medical College, 1898; located at Naper since graduation; in the Indian service for twenty-seven years; member, Nebraska State Medical Association; died Sunday, November 15, 1931, aged about sixty-five years. A widow survives.

TUBERCULOSIS ABSTRACTS

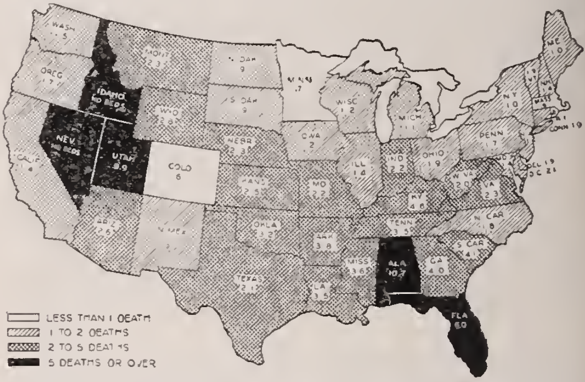
A REVIEW FOR PHYSICIANS

It is estimated that there are in the united States about 828,000 cases of active pulmonary tuberculosis. The total number of hospital and sanitorium beds now occupied by tuberculosis patients is about 80,000, leaving a remainder of 748,000 patients who are either receiving treatment at home or none at all. Perhaps most of those who take the cure at home do so because they are not persuaded of the advantages of the sanatorium. Others cannot enter institutions even though they would because of inadequate local provisions. A considerable number pursue the cure at home on the advice or at least with the tacit consent of the physician. Paul H. Ringer at the eighty-second annual session of the American Medical Association discussed the question of home treatment versus institutional treatment of pulmonary tuberculosis. Abstracts of his paper follow.

HOME TREATMENT VERSUS INSTITUTIONAL TREATMENT

The uniform success achieved by sanatoria in all parts of the country has led to the belief that climate counts for nothing and that, therefore, the cure may be carried out just as well at home. But this attitude overlooks the prime object of the institution; namely, the education of the patient. Moreover, in the sanitorium, rest is found for the mind as well as the body, for there are no responsibilities and a patient is surrounded by a sympathetic environment.

In only a minority of cases will home treatment work. Taking the cure is like finding "a way of life" and that way is particularly hard for the patient to follow at home. If there is nothing more to the treatment than bed rest, reasons the patient, he might better be at home. If he has a good home, that might be true but the point he overlooks is that, in addition to bed rest, there are details one learns from physicians, nurses, and other patients, the force of example, and the common routine. A period of quiet and of relative isolation helps the patient to regain his composure, after having been upset by the news that he has tuberculosis. He makes his adjustment to the necessary and tedious inactivity in the company of others who are trekking along the same trail.



Number of beds for tuberculosis cases compared with number of deaths from tuberculosis—1928. (Exclusive of federal and penal institutions and hospitals for the insane).

In an institution, the regimen is so planned as to make it easy to do the right thing. The patient must deliberately step out of line in order to do the wrong thing. At home, the patient is forced to swim against the tide, for relatives and friends have scant realization of the limitations that must be placed on the patient.

The patient at home may obtain bodily rest, but relaxation, that is, freedom from mental strain, is difficult to secure. He is subject to disturbance by (1) the family, (2) friends, and (3) business. Family irritation, not rare in health, is aggravated in time of sickness. Overanxiety of relatives, a deleterious influence even in an illness of short duration, becomes a factor of major seriousness when exerted over a period of many months. The normal chatter and noise of young children render the patient's nervous system taut. At the same time, the desire for expressed affection leads to many contacts and repeated exposure of the child to tubercle bacilli. All of the minor ailments and petty misunderstandings of the household impinge themselves on the consciousness of the patient, even in an affluent home and more so in one of poor circumstances.

The control of visiting friends is almost impossible. Strict hours cannot be maintained. If there is a nurse, she is likely to be off duty during several hours in the afternoon, which is the time when friends commonly call. The disturbing gossip retained by visitors who stay on and on leaves the patient fretful or worn out. Unsolicited advice about food and rest and "harmless" diversions, such as going to the movies or taking an auto ride, undermine the patient's morale.

Business associates are a disturbing element. Matters come up which by discussion in person or over the phone "take only a minute" to settle but leave hours of disquiet and worry. Business friends drop in when it is convenient to them and talk shop, which leaves the sick man unsettled in his mind and rebellious at the fact that he cannot take an active part. These difficulties, in principle, apply with equal force to women patients.

Most patients do best at an institution some distance away from home, say 200 miles. Visits of relatives are more difficult and telephone conversations less frequent. A factor to be considered is the enthusiasm, anticipation, or hope engendered by going away to a favorable environment; this the patient cannot possibly have if he simply goes to bed amid familiar surroundings.

THE DOCTOR SHOWS THE WAY

The determination to get well is essential. We physicians can only point out to the patient "the way of life"; mark the highway, warn against side roads, steer clear of impassable byways. We cannot carry the patient one yard, save in those cases in which lung surgery can be employed.

The author does not advocate sending the patient away from home immediately subsequent to a diagnosis of tuberculosis. Patients with tuberculous bronchopneumonia and patients who have had hemoptysis with subsequent areas of softening, accompanied by high fever and evidences of acute illness, are much better kept at home until the initial acuteness of the condition has subsided and they can be moved with relative safety. Nor should patients be "railroaded" out of their homes without being given time to take in the situation or to adjust themselves to what appears to be a cataclysmic upheaval in their lives.

The author feels that the great benefits to be obtained from leaving home and preferably from institutional treatment are as much psychic as physical; but in the case of tuberculosis, the psychic and the physical are so intimately blended that it is next to impossible to evaluate one above the other.

DISCUSSION

Dr. James Alexander Miller: The proper regulation of rest and exercise by which each patient gradually learns his individual limitations is the most essential element in the system of cure. As with many other forms of education, this knowledge comes only by long persistent effort. Schools are more effective than home study or correspondence courses. A sanatorium is a school for health. The patient learns unconsciously from the example and experience of his associates. He need not learn entirely from his own mistakes, which are often costly. Gradually, the knowledge of his limitations leads him to a habit of life which is instinctive and consequently no longer irksome. The skilled guidance of a trained physician, experienced in the care of chronic diseases, thoughtful of varying temperaments, capable of giving inspirational guidance, always patient and persistent, helps the patient to acquire not only a habit but a philosophy of life which enriches his life.

Dr. A. M. Forster: "I was interested in what Dr. Ringer said about the difficulties of home treatment as compared in men and in women. I use an illustration in talking to the woman who wants to go back to her children. I tell her that if we took her husband and put him in his office on a cot and told him that all he needed was rest, and that he need pay no attention to the bookkeeper or to the customers or to his partners or to the telephone, and would simply get himself into the proper psychologic state and would rest, then that situation would be comparable to what the woman has to submit to when she attempts to take a rest cure in her own home."

Dr. James M. Anders: Treatment in a sanatorium some distance from home is more nearly ideal, although to remove the patient a long distance has certain disadvantages. The force of example as an aid to the patient has been underestimated. In general, a stay of from nine months to a year is required to teach the patient the institutional regimen. When he has mastered that and if he possesses average intelligence, the treatment may continue at home.—Pulmonary Tuberculosis—Home Treatment versus Institutional Treatment, Paul H. Ringer, Jour. of the A. M. A., August 8, 1931.

AUXILIARY NOTES

A meeting of the executive board of the State Auxiliary was held at the home of the State Secretary, Mrs. Wm. F. Shearer, Omaha, October 16. There were present: Mrs. Morris Nielsen, Blair; Mrs. H. R, Miner, Falls City; Mrs. F. F. Teal and Mrs. Roy Whitham, Lincoln; and Mesdames H. C. Miller, Clyde Roeder, C. W. Pollard, A. F. Tyler, Clarence Rubendall, George Neuhaus, C. C. Tomlinson, William Shearer, Omaha.

Mrs. Lucien Stark, Norfolk, was appointed chairman of the nominating committee and Mrs. C. C. Tomlinson, Mrs. F. L. Rogers, Mrs. G. B. Dent and Mrs. R. S. Wycoff, members of the committee.

The program committee consists of Mrs. Morris Nielsen, Mrs. C. W. Pollard, Mrs. Wm. T. Shearer, Mrs. F. F. Teal and Mrs. George Neuhaus.

It was suggested by Mrs. Neuhaus that we make all our arrangements for the coming year in keeping with the times—that we make them as simple as possible and cut down all unnecessary expense.

The Omaha-Douglas County Auxiliary held the first meeting of the fall at the Fontenelle hotel. Following a luncheon, Dr. Floyd Clarke gave an interesting talk on "Infantile Paralysis". He stated in part: "The injection of convalescent serum before the onset of paralysis seems to prevent the disease from progressing to the stage of paralysis. If we had had an epidemic this year our supply of convalescent serum would have been entirely inadequate."

Mrs. Clarence Rubendall, delegate to the Philadelphia convention gave a report of that meeting.

Mrs. H. R. Miner is now president of the Richardson County Auxiliary at Falls City and Mrs. C. L. Hustead, secretary-treasurer.

The project for the year is the study of state laws on sanitation, quarantine and school inspection; also a pre-natal exhibit and literature on the week preceding Mother's Day.

Due to their philanthropic committee they have a two weeks' supply for mother and baby to be loaned to any member of the Richardson County Medical Society for charity cases.

Mrs. Earle Farnsworth is president of the Hall County Auxiliary; Mrs. George DeMay is vice president, and Mrs. J. D. Woodin, secretary-treasurer. Their auxiliary is fostering the sale of Christmas seals in rural schools, making it possible to place Hygeia in those schools. On October 30 they gave a benefit bridge in the pediatrics department of St. Francis hospital which was very successful.

THE SOCIETIES

A special meeting of the **Omaha-Douglas County Medical Society** was held October 15, 1931, Dr. A. S. Pinto presiding. The president called on Dr. MacQuiddy to introduce the speaker of the evening, Dr. Robert A. Cooke of New York City.

Dr. Cooke spoke on Allergy and Its Clinical Manifestations. According to the speaker there are normal allergic reactions as typified by the results of various intracutaneous tests, the reaction to horse serum, the reaction to poison ivy. The pathological types of allergy manifest themselves in asthma, eczema, hay fever, migraine, urticaria and angioneurotic edema. Dr. Cooke warned against the interpretation of skin reactions without taking account of delayed reactions to the various substances on the part of the skin. Any organ of the body may be susceptible to allergic attacks. Thus the gastrointestinal type may manifest itself in the form of colitis or the form of angioneurotic edema. This manifestation may be obscured by symptoms of all sorts, including surgical abdomens. The nervous system may be subject to allergic changes. Epilepsy and migraine are good examples, the speaker said, of the influence this process has on the nervous system, and that the nose and sinuses have been attacked by allergic substances is too evident to go into discussion. He merely mentioned vasomotor changes in the nose in the form of hay fever, hyperplastic rhinitis, suppurative rhinitis. The etiology of this condition is obscure although there is ample evidence to suppose that the metabolic changes are directly responsible for allergic attacks. These metabolic changes may be the result of infectious foci or various toxins of non-infectious origin.

The last meeting of the **Omaha-Douglas County Medical Society** was held October 27, 1931, Dr. A. S. Pinto presiding.

Dr. Pinto introduced Mr. Gwyer Yates, a representative of the Community Chest, who spoke for five minutes on the importance of the Community Chest Campaign for funds this year.

The scientific meeting opened when Dr. Frederick J. Wearne introduced the first speaker of the evening, Dr. Walter R. Johnson of the Mayo Clinic Foundation, who spoke on the Significance of Jaundice without Pain. Dr. Johnson discussed the etiology of various types of jaundice, emphasizing the difference between the obstructive and non-obstructive types. Symptomatology and treatment of the various types of jaundice was covered thoroughly. This talk was illustrated with lantern slides reproducing histories of individual cases of jaundice.

The next speaker of the evening was introduced by Dr. Rodney W. Bliss, Dr. C. J. Barborka, also of the Mayo Clinic. Dr. Barborka spoke on the practical treatment of obesity. It was interesting to note the clearness and conciseness with which Dr. Barborka illustrated his remarks. In discussing the different types of obesity with regard to etiology and treatment, Dr. Barborka indicated that only a small percentage of true obesity is due to glandular disturbances, most of them are due to a disturbance in the balance of the various food elements in relation to one another. This, together with an increased intake of food and a lower output of energy tends to produce fat deposits in individuals who are disposed to obesity. Activity, Dr. Barborka thinks, plays only a small roll in energy consumption of these individuals. In regard to treatment the Doctor stated that most cases of obesity can be relieved by sane and simple dietary regimen. The various diets proposed by lay and scientific workers are futile because it does not take into account the ratio of elements in the foods. In outlining a diet for an obese individual, Dr. Barborka suggests that food approximating 25 to 30 calories per kilogram weight, making due allowance for increased activity, can bring about satisfactory results in almost any case of simple obesity. It is very essential to outline the program on a rational basis allowing ample food in order that the patient does not go hungry and over-indulge. The basic food consists of (1) one egg, (2) one pint of milk a day, (3) fresh fruit, (4) fresh vegetables, besides potatoes, (5) meat, (6) one tablespoonful of butter. That, Dr. Barborka states, is a basic diet around which the rest of the calories required by the individual should be evenly distributed, taking into account one gram of protein per kilogram of desired weight.—Abstracted from The Bulletin.

The November meeting of the **Madison Five Counties Medical Society** was held on the 17th at Hotel Norfolk, Norfolk. Forty physicians and their ladies enjoyed the dinner following which the following program was given: "Anatomy of Abdominal Viscera—two reels of film," Dr. Herbert H. Davis, Omaha; "Effect of Drugs on Gastro-intestinal Motility—one reel of film," Dr. Wilson B. Moody, Omaha; "Mild and Brief Forms of Manic-Depressive Psychosis and their Treatment," George Neuhaus, Omaha. Dr. Neuhaus brought out the points that the mild forms of manic-depressive psychosis are the most dangerous to the patient—he is more likely to harm himself in this stage than in the deeper stage when he has lost initiative. The old bromide and chloral mixture is still useful as a hypnotic. Sodium amytal has a field of usefulness.

The **Seward County Medical Society** held its monthly meeting at Milford October 29. Following a dinner papers were read by Dr. James Muir and Dr. H. J. Wertman. All the members, but one, were present.

At the November meeting of the **Otoe County Medical Society** at Nebraska City, November 9, Dr. D. D. Stonecypher was elected president. Dr. H. B. Morton, secretary-treasurer, and Dr. R. H. Loder, delegate.

The speaker of the evening was Dr. D. D. Stonecypher who reviewed the history of the American Medical Association of Vienna. He has just returned from Austria where he spent six months studying.

The Viennese A. M. A., he explained, is made up of doctors studying there and is in no way connected with the A. M. A. with headquarters in Chicago. It has been organized since the early 1900's and only during the war, when business was slow, have the offices been closed.

Headquarters are in very meager surroundings over the "Edison Cafe," better known than the A. M. A. itself. At headquarters all classes are signed up for and an ample library is provided for the student doctors.

He dealt briefly with the German feeling toward the Americans since the war. There is no hostility toward us, Stonecypher said. The war is a closed incident, nothing but a memory.

The autumn meeting of the **Ninth Councilor District Medical Society** was held in the court room in Lexington. A large number of doctors were present to hear the program.

The first speaker was R. D. Ryder, M. D., of Grand

Island, whose subject was the "Control of Contagious Diseases Through the Schools."

The second number was given by John F. Allen, M. D., of Omaha, on "Pathology of Tuberculosis." He gave a number of lantern slides to illustrate his points. The third number was given by W. J. Arrasmith, M. D., of Grand Island, on "Hyperthyroidism Neurasthenia" or in other words goitre. He also used the lantern. C. H. Fox, M. D., of Kearney, spoke on "Some Interesting Points Concerning Glaucoma," an ailment of the eye. He had eye charts to show the points he wished to bring out. Joseph A. Weinberg, M. D., of Omaha, spoke on "Surgical treatment of Pulmonary Tuberculosis" and also used slides.

The high light of the meeting was the talk by John E. Summers, M. D., of Omaha, on "The Increasing High Death Rate for Appendicitis—America the Highest in the World—How to Lower this Death Rate by a More Rational Operative Technique." He said that while all doctors make mistakes, the biggest factor to the high death rate is the over-confidence of the modern young doctor in his ability to operate successfully. He is strongly of the opinion that no man should open the abdomen with the knife unless he is able to cope with anything he may find there. A movement is on foot to enact laws to this effect.—Lexington Clipper.

A joint meeting of the **Third Councilor District and Gage County Medical Societies** was held at the Paddock hotel, Beatrice, November 12. The program is given: "Late Toxemias in Pregnancy," Elmer Hansen, M. D., of Lincoln; "The Professional Attitude Toward Consultation," Francis Heagey, M. D., of Omaha; "Office Management of Goiter," Arthur E. Hertzler, M. D., of Halstead, Kas.; Business Meeting. (Election of Officers). Dinner at Hotel (75c). "Skin From a Physiological Standpoint," (Lantern), J. A. Borghoff, M. D., of Omaha; "Foreign Bodies in Esophagus and Air Passages," (Lantern), B. M. Kully, M. D., of Omaha; "Diagnosis and Treatment of Bronchiectasis," (Lantern), Joseph A. Weinberg of Omaha.

A regular meeting of the **Lancaster County Medical Society** was held in the Sharp Building on October 20, 1931.

The first paper of the evening was read by Dr. Elmer Hansen on "Late Toxemias in Pregnancy". He outlined briefly the nature of toxemias and spent most of the time discussing the treatment. He advocated particularly rest in bed with careful observation of the pulse rate and blood pressure, the use of intravenous glucose in large quantities and in certain cases causes radical interruption of the pregnancy. He discussed the work of Dieckman and Schwartz in which they advocate the use of gum acacia solutions intravenously. The paper was discussed by Drs. Morgan, Covey and Hansen.

The second paper of the evening was read by Dr. Harold S. Morgan on "Investigation of Sterility Cases". He outlined the general cases of sterility mentioning the constitutional causes and the local causes. In the investigation of these cases he advocated, first, a careful general physical examination of both partners; second, careful local examination of both partners; third, post coital examination; fourth, the Reuben test when indicated with or without x-ray visualization of the tubes. He detailed the technique of post coital examination and the Reuben test and demonstrated apparatus for the performance of the Reuben test. The paper was discussed by Drs. Harvey, Covey, Graham, Rowe, Hansen and Morgan.

—Roy H. Whitham, Sec.

The **Republican Valley and Tenth Councilor District Medical Association** met October 29th at Arapahoe, Nebraska. About sixty doctors and their wives were present at dinner with Dr. W. I. Devers of Upland, presiding.

The scientific program was as follows: "Some General Remarks on Diet" by Dr. A. D. Dunn, Omaha; "The Relation of the Thyroid to the Larynx and Pharynx", Dr. C. A. Roeder, Omaha.

Dr. Dunn's talk was a discussion of the fundamental constituents of a proper diet, expressing the thought that common sense should be applied in the face of the tendency to fads and the undue influence of manufacturers.

Dr. Roeder discussed several interesting and little known points in the surgical anatomy of the thyroid gland.

At the business meeting the following officers were elected for the coming year: Dr. Malcolm B. Wilcox, Holdrege, president; Dr. Geo. L. Pinney, Hastings, secretary and treasurer.

Holdrege was selected for the spring meeting.

—M. B. Wilcox.

HUMAN INTEREST TALES

Dr. M. H. Evans, Emerson, is a patient in a Sioux City hospital.

Dr. William Robertson, formerly of North Bend, has located at Cozad.

Dr. C. E. Sayre, Norfolk, did postgraduate work in Chicago during October.

Dr. F. P. Sucgang, for several years in practice at Bushnell, has located at Alliance.

Dr. A. E. Reeves, Farnam, submitted to an operation in an Omaha hospital last month.

Dr. I. C. Munger, Sr., Lincoln, was seriously injured in an auto collision, October 13.

A new hospital building at the Women's Industrial Home, Milford, has been completed.

Dr. H. J. Wertman, Milford, was elected president of the Nebraska Good Roads association recently.

Dr. Jennie Callfas spoke on "Woman's Place in Peace" before the Omaha Y. W. C. A., November 16.

Dr. Roy Fouts, Omaha, suffered serious injuries to his back and chest by an auto accident recently.

Dr. J. M. Kavan, Clarkson, was severely burned recently by the explosion of an oil stove in his office.

Dr. P. B. Lonergan has moved from Bloomfield and located at Wisner in succession to Dr. Marie Morse.

Dr. W. R. Boyer, Pawnee City, spoke on Periodic Health Examinations before the local Rotary club, October 13.

Dr. L. D. McGuire, Omaha surgeon, suffered a fractured leg as a result of a collision of his car and a street car.

Dr. C. C. Hickman, Lincoln surgeon, announces that after November first he will limit his practice to proctology.

An itinerant dropped dead in the office of a West Point physician recently after having told the physician he had had no food for three days.

Dr. D. B. Wengert, St. Paul, Nebr., and Miss Laura Marie Buchanan, daughter of Dr. and Mrs. A. E. Buchanan, Fremont, were married October 17.

A free crippled children's clinic was featured at Nebraska City November 19, under the joint auspices of the Elks and the Otoe County Medical society.

Dr. R. K. Johnson, Friend, has returned from the Walter Reed Hospital, Washington, D. C., where he was given a special course available to the medical reserve officers.

A physician by the name of William Green, said to have been a resident of Hastings, is reported to have died at Davenport, Iowa, November 8, aged 56 years. His name does not appear in the latest A. M. A. Directory as of Hastings and inquiry at Hastings gives only indefinite information about such a person.

DIAGNOSIS OF TUMORS INVOLVING SPINAL CORD

Henry W. Woltman, Rochester, Minn. (*Journal A. M. A.*, Nov. 8, 1930), stresses the fact that the patient's story is the most important step in diagnosis. The earliest and commonest complaint is pain. The pain may be in the spine at the site of the tumor; it may be referred to the lower extremities even when the tumor lies high in the canal, but usually it is referred along the distribution of a posterior root, when it is known as a root pain. Root pains have certain characteristics. They are segmentally distributed; that is, lengthwise in the arms and legs and circularly in the trunk. Then, since tumors grow, the pain becomes more and more intense and adjacent roots become involved; unilateral sciatica becomes bilateral sciatica, and unilateral trunk pain has added to it a complementary pain on the opposite side, completing the so-called girdle. Since there are usually no diseased organs at the site of the pain, there is, as a rule, no local tenderness. Coughing, sneezing, compression of the jugular veins, or, in short, anything which suddenly increases the pressure of the spinal fluid aggravates the pain. Root pains have a habit of awakening the patient from sleep at 3 or 4 o'clock in the morning. He discovers that relief may be obtained by walking, or by sleeping in a chair. In both of these positions the spine becomes relatively shorter. A helpful test consists in flexing the head sharply on the thorax; this simple maneuver often elecits or accentuates the pain. The explanation is probably to be sought in the resulting traction on the cord and dura, and in the increased congestion within the head which displaces the cerebral fluid into the spinal canal. A blue pencil, which Richard Bright referred to as "the most useful instrument of the physician," will be found helpful. It is important to know the precise site of the pain, which may be marked on the patient. The dates of its appearance and its radiation should be recorded. By and by the patient may become aware of clumsiness in running, or of outright muscular weakness. As a rule, the weakness is slowly progressive. Inspection of the tips of the patient's shoes may show a decided difference in wearing. Some patients collapse suddenly, arise, and wonder why they fell; this often happens in case of dumb-bell-shaped tumors which lie partly within and partly without the spinal canal, and may be due to transitory compression of the cord. Other patients who become suddenly weak may have suffered from hemorrhage or softening of the cord incidental to the tumor. Subjective sensory disturbances appear sooner or later. Disturbances in the sphincteric and sexual spheres may add to the discomfort of the patient. Following spinal puncture, aggravation of all symptoms is common; a neurologic examination may then enable one to establish a level of disturbance with ease when it was impossible before. Woltman reports three cases in which tumors were found at different segmental and transverse situations. He discusses the hydrostatic and chemical changes of the spinal fluid, the value of roentgenography in diagnosis and the difficulty often encountered in arriving at a diagnosis. Repeated examinations may be necessary in order to establish a diagnosis. Occasionally exploratory laminectomy is advisable, particularly if progressive involvement of the cord makes further delay perilous. However, exploration without definite indication of the correct level of disturbance is almost certain to result in disappointment.

DIAGNOSIS AND MANAGEMENT OF THE ALLERGIC CHILD

A child suffering from the so-called allergic syndromes of asthma, eczema, urticaria and hayfever is viewed by Bret Ratner, New York (*Journal A. M. A.*, Feb. 21, 1932), from the standpoint of protein hypersensitiveness. A carefully taken and thoroughly analyzed history is essential. This should include not only the history of a typical attack in its relation to foods, contact with animals, season of the year, time of occurrence and locality, but also a broad and general history of the case as a whole. In addition to the history, a complete physical examination and laboratory tests such as chemical examination of the blood, cytologic studies and roentgenograms should be made and from 300 to 400 protein skin tests performed on each child by the scratch method. The author believes that etiologic factors such as sensitization in utero, sensitization by passage of antigen through the intestinal tract, and sensitization through inhalation of antigenic dusts are of paramount importance. The management of the allergic child and a study of its progress under the careful regimen described presents evidence that specific protein hypersensitiveness is as basically important to allergy as the tubercle bacillus is to tuberculosis. He hesitates to extol the virtues of so complex and still immature a subject as allergy; but an analysis of cases studied over a period of years sanctions his form of management as a sound therapeutic procedure.

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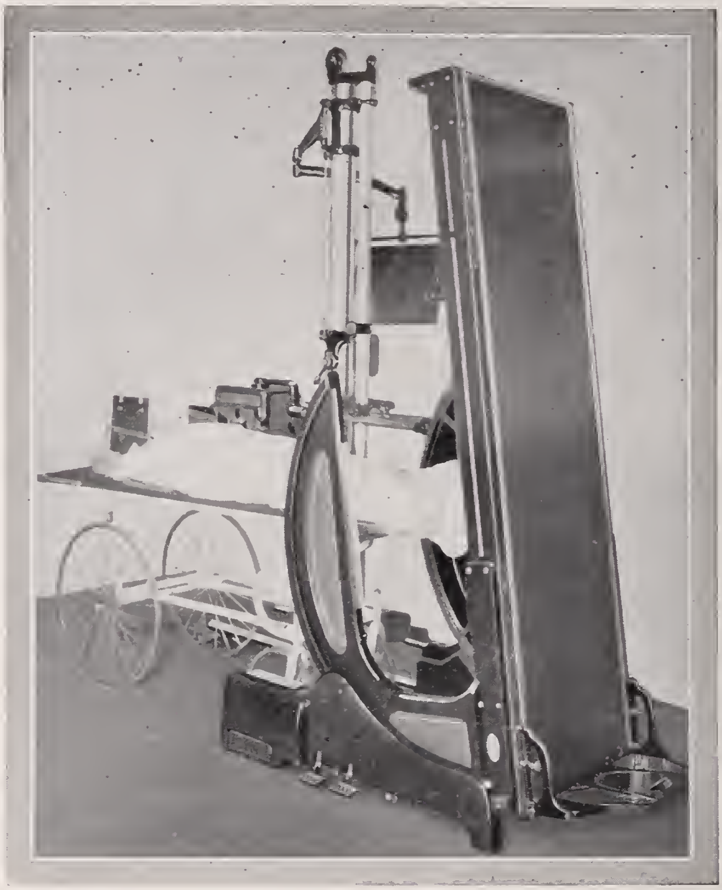

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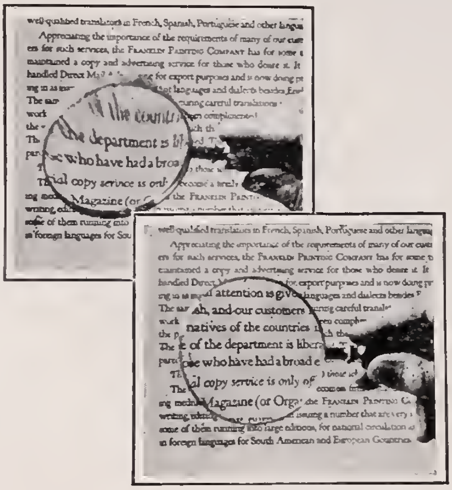

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IN THIS NUMBER

Duncan on "Factors Influencing Surgical Mortality"; Pinney on "Cardiac Hypertrophy"; Ryder on "Post Mortem Caesarean Section"; Cole on "Dental Nutrition"; etc., etc.

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The liberal use of cow's milk in the child's diet is desirable for its calcium and phosphorus content when its well-known deficiencies in iron and vitamin B (F) are made good with Mead's Cereal which contains 100 times as much food iron as whole milk.

Constituent	Mead's Cereal	Rolled Oats	Farina	White Bread	Whole Milk	Eggs
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Moisture	7.0	8.0	10.90	35.30	87.00	73.70
Protein	15.00	15.2	11.0	9.2	3.3	13.4
Fat	3.00	7.3	1.4	1.3	4.0	10.5
Carbohydrate	71.80	66.2	76.3	53.1	5.0	—
Calories per oz.	109	110	103	74	20	42
Calcium	0.780	0.069	0.021	0.027	0.120	0.067
Iron	0.024	0.0038	0.0008	0.0009	0.00024	0.003
Phosphorus	0.620	0.392	0.125	0.093	0.093	0.180
Copper	0.0013	0.0005	0.00017	0.00034	0.000015	0.00023

These figures are included to illustrate ordinary nutritional values. These factors no longer constitute a serious nutritional problem.

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WINTER SALAD *(Six Servings)*

	Grams	Prot.	Fat	Carb.	Cal.
2 teaspoons Knox Sparkling Gelatine	4.5	4	..	..	..
¼ cup cold water	..	..	..	..	..
½ cup hot water	..	..	..	..	..
½ teaspoon salt	..	..	..	..	..
¼ cup vinegar	..	..	..	..	..
1½ cups grated cheese	150	43	54	..	..
½ cup chopped stuffed olives	70	1	19	8	..
½ cup chopped celery	60	1	..	2	..
¼ cup chopped green pepper	25	..	..	1	..
⅓ cup cream, whipped	75	2	30	2	..
Total		51	103	13	1183
One serving		8.5	17	2	197

Soak gelatine in cold water. Bring hot water and salt to boil and dissolve gelatine in it. Add vinegar and set aside to chill. When nearly set, beat until frothy, fold in cheese, olives, celery, pepper and whipped cream. Turn into molds and chill until firm. Unmold on lettuce leaf and serve.

SPANISH CREAM *(Six Servings)*

	Grams	Prot.	Fat	Carb.	Cal.
1 tablespoon Knox Sparkling Gelatine	7	6	..	..	..
¼ cup cold water	..	..	..	..	..
1 cup milk	240	7	10	12	..
¾ cup boiling water	..	..	..	..	..
2 eggs	100	13	10.5	..	..
1½ teaspoons vanilla	..	..	..	..	..
Few grains salt	..	..	..	..	..
Total		26	20.5	12	336.5
One serving		4	3	2	56

Soak gelatine in cold water five minutes. Heat water and milk over boiling water, add gelatine and stir until dissolved. Separate eggs and beat yolks until lemon colored. Stir gelatine mixture slowly into egg yolks. Return to stove and cook over boiling water until mixture begins to thicken. Remove from stove, add vanilla and salt and chill. Beat egg whites until stiff and fold into jelly when almost set. Mold and chill until firm.

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IF you agree that recipes like the ones on this page will be helpful, write for our complete Diabetic Recipe Book—it contains dozens of valuable recommendations for the diabetic diet. We shall be glad to mail you as many copies as you desire. Knox Gelatine Laboratories, 429 Knox Ave., Johnstown, N. Y.

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